THE

ENTOMOLOGIST'S ANNUAL

FOR

MDCCCLXVI.

WITH A PLAIN PLATE.

LONDON:
JOHN VAN VOORST, PATERNOSTER ROW.

MDCCCLXVI.

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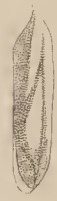

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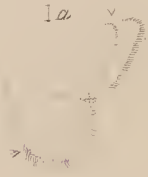

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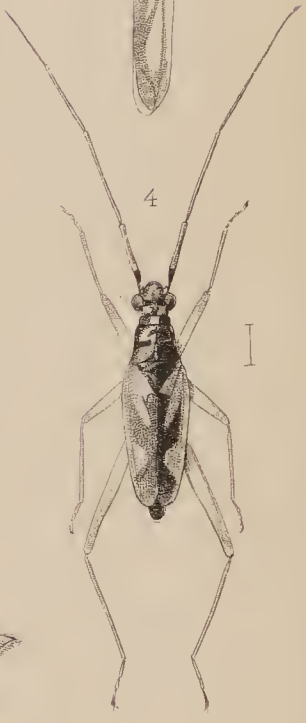

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E. W. Robinson, Del.t et Sc.p 1865.

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"In every aspect of nature there is joy; whether it be the purity of virgin morning, or the sombre grey of a day of clouds, or the solemn pomp and majesty of night; whether it be the chaste lines of the crystal, or the waving outline of distant hills, tremulously visible through dim vapours; the minute petals of the fringed daisy, or the overhanging form of mysterious forests. It is a pure delight to see."

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EXPLANATION OF PLATE.

Fig. 1. *Acidalia mancuniata*, Knaggs, see p. 144.

1*a*. Outline sketch, showing the difference in the form of the wings of *A. mancuniata* and *A. subsericeata;* the inner dotted line representing *mancuniata*, the outer line *subsericeata*.

2. *Pterophorus dichrodactylus*, Mühlig, bred from tansy; see Entomologist's Monthly Magazine, vol. ii. p. 137.

3. *Bothynotus Minki*, Fieber, ♂ and ♀, see p. 172.

4. *Teratocoris dorsalis*, Fieber, see p. 172.

4*a*. Represents a variety in marking on the elytron of the same species.

5. *Cryptocephalus* 10-*punctatus*, Linné; the type form, see p. 114.

6. *C.* 10-*punctatus;* a maculated form, see p. 115.

7. *C.* 10-*punctatus;* the black variety (*Bothnicus*, Linné), see p. 115.

8. *Agathidium Rhinoceros*, Sharp, see p. 78.

8*a*. Antenna of ditto.

8*b*. Left mandible of the male of ditto.

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For the first time since the Annual was started, it has been overrun with matter, and we have been compelled to exclude two chapters purposely written for the volume, and one other which we would very willingly have inserted, but which will now appear in the pages of the Entomologist's Monthly Magazine.

When the various papers were in preparation we feared we should be rather short of matter, and asked some of our contributors to make their papers longer than usual—the result has been—as was exclaimed on a memorable occasion—

"Too much help."

A word of thanks is also due to the numerous Entomologists and others who come forward so liberally in aid of the subscription raised for Mr. William Winter, of Mulbarton, near Norwich, for which he expresses himself most grateful.

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MY FIRST VISIT TO THE ENGADINE.

By H. T. Stainton, F.L.S.

During the last ten years the fame of this valley has been constantly on the increase, and having heard so much of its Entomological riches, from many who were most competent judges, I determined, as soon as I had a convenient opportunity, to visit the locality myself. I have now had the good fortune to make my first visit to the Engadine, in this month of July, 1865, under peculiarly favourable circumstances. The weather, with the exception of half a day, was everything that could be desired; and, moreover, I met there some old friends, who are among the first Entomologists of Germany. So that pleasant companionship, fine weather, pure mountain air, splendid snow peaks and glaciers, rocky crags of fantastic shape, the brilliant velvety verdure of Alpine meadows, and a first acquaintance with the Fauna and Flora of the Alpine world,—all combined to make my four days' stay in Pontresina a brilliant epoch of my life.

The last halt before starting for the Engadine was Zürich, and from Zürich we started on the morning of the 10th in pouring, drenching rain, the only consolation to be derived from which was that we should not be annoyed with dust, and should see any waterfalls that might be running down the mountain-sides to perfection. Nor were we disappointed, for directly we entered upon the startlingly-grand scenery of Lake Wallenstadt, the watery torrents streaming down the opposite rocks were magnificent,—one in particular, near the

lower end of the lake, long riveted our attention, and the tunnel into which we rushed when we had first caught sight of it seemed particularly aggravating.

The rain still kept on, and the clouds were far below the tops of the lower hills, but still, after entering the valley of the Rhine at Sargans, we were able to perceive the increasing grandeur of the scenery. The train sped on, and in due course we reached the terminus at Chur or Coire; but the rain still poured down most furiously, and we made a frantic rush to the omnibus of the Weisses Kreuz.

The first proceeding, as soon as housed there, was to rush to the post-office to secure places in the diligence the next morning to Samaden; the *coupé* was already engaged, so we were forced to be content with the *intérieur*.

At 5.15, the next morning, we started in the diligence from Chur, and after ascending up the valley of the Rabiosa till we were 2,800 feet above Chur, we were not a little surprised to find that we had to descend 2,100 feet to Tiefenkasten, situated in the valley of the Albula. After leaving Tiefenkasten it was, however, all up-hill till the summit of the Julier Pass was reached,—the road running up the valley of the Oberhalbstein Rhein, which presents to the ascending traveller an interminable series of waterfalls and cascades of every possible variety. The peaks of all the hills were decked out with newly-fallen snow, for the rain of the preceding day had been snow on the heights above. The sun shone out brilliantly, a few light clouds just serving to vary the landscape by giving the requisite amount of light and shade. At Bivio Stalla I left the diligence to walk up to the Julier, and thus had an opportunity of seeing, for the first time, some Alpine flowers and insects; of the latter, *Chrysophanus Chryseis*, *Parnassius Delius*, and *Colias Phicomone*, immediately attracted my attention, and

just before reaching the summit a little *Orchis*, of a dull purple, and with an exquisite scent like chocolate, greeted me on behalf of the Alpine Flora.

The descent from the summit of the Julier soon brought us in sight of the Engadine; almost beneath us lay Silvaplana, on the banks of the lake of Silvaplana, and the snowy peaks of the Bernina range formed an imposing back-ground to the opposite side of the valley; lower down in the plain we perceived the ugly buildings connected with the baths of St. Moritz, the village of St. Moritz being far more picturesquely situated on a little eminence on the northern side of the valley, and overlooking the lake of St. Moritz. The diligence pursued its way down the valley, through Celerina to Samaden, where we arrived about thirteen hours after starting from Chur.

Here we hastened to the Hotel Bernina, and ordered a vehicle to convey us to Pontresina; whilst waiting for this, we discussed some coffee with excellent cream, and some most delicious cakes. Hunger and thirst satisfied, we feasted our eyes on the snowy peaks in view from the window, till our landlady assured us that from a balcony at the other end of the hotel the view was far finer. Here, indeed, we had a rich treat looking up the valley, with the towering peak of Piz Palu all in white (12,835 feet high) just opposite to us. It was whilst engaged in feasting our eyes on this scene that we were agreeably surprised to be accosted by Professor Hering, of Stettin, who had seen us on the balcony from below, and had hastened to be the first to greet us on our arrival in the Engadine. From him we learnt that Professor Frey, of Zürich, had left the previous day, that Dr. Staudinger and Herr von Heinemann were staying at Pontresina, and that Dr. Herrich-Schäffer was expected.

At Samaden we also found a friend of Professor Hering's, Herr Schmidt, of Wismar.

By this time our carriage was ready, and we proceeded to complete the remaining four miles of our journey to Pontresina; it was almost dusk as we reached that village, but there was just sufficient light to enable us to see the Roseg glacier at the end of the valley.

The Krone was quite full, but the landlord had secured rooms for us in an adjoining domicile, and so we got comfortably housed.

The morning of the 12th July, our first morning at Pontresina, opened inauspiciously, dull with low clouds, and before long a drizzle, and then rain; but after the roasting we had undergone at Paris the previous week, how delicious it was to wash in water so cold that it actually numbed your fingers! We turned out soon after eight to go to the Krone to breakfast, and I looked anxiously round the room for any of my Entomological friends, but not finding any, had recourse to the landlord, who could, however, give me no tidings of them. After breakfast, though then raining pretty smartly, I set out in search of the Weisses Kreuz, but overlooking the very small sign hung out, and there being no other indication whatever to the inns at Pontresina, I got a walk and a wetting, but no other result for my pains, and returned to the Krone feeling rather forlorn and ill-used because the weather was bad. After waiting, however, some three-quarters of an hour I thought I would try my luck at another part of the village, and whilst walking thither I overtook Professor Hering and Herr Schmidt, from whom I learnt that the Dr. Staudinger and Herr von Heinemann were stopping at the Weisses Kreuz, that they had walked over from Samaden in the rain, and having failed in getting in at the Weisses Kreuz or the Krone, were going on to the

Steinbok to try their luck there; wishing them every success in their expedition, I proceeded again in search of the Weisses Kreuz, and by dint of inquiry succeeded in finding it,—and there I found Dr. Staudinger, Herr von Heinemann, and Herr Benteli, of Berne.

The previous day they had been on one of the Alps near Samaden, considerably above the snow line, and had made numerous captures, so that the wet day, which I found a trial to my temper, was very convenient to them, giving them the necessary leisure for setting out the booty they had collected. Dr. Staudinger gave me some larvæ of a *Depressaria*, which he had collected in the umbels of a species of *Laserpitium;* from these larvæ I have since bred both *Depressaria Laserpitii* and *D. Heydenii*. Herr von Heinemann showed me some of the insects he had collected the previous week, amongst which were one or two which appeared to be new species of the interminable genus *Gelechia*, a *Coleophora*, probably new, and the interesting *Œcophora Rhætica*. Whilst thus employed, the morning slipped away, and the dinner-hour, 1 P.M., arrived.

On a wet day in a strange place dinner is particularly acceptable, and after dinner I certainly felt more amiable; the weather also had improved, for the rain had entirely ceased and did not even threaten to commence again. We therefore sallied forth for a walk, taking the road up the valley; the ground had already dried wonderfully, and as we left Pontresina behind us we felt that peculiar exhilaration which arises from the thin mountain air and novelty of scene. We had scarcely proceeded a mile when the end of what I supposed must be the Morteratsch glacier attracted my attention. I had understood that it was $3\frac{1}{2}$ miles from Pontresina, but that must evidently be a mistake, for we had hardly walked a mile, and evidently were only about the same distance from the

glacier. Looking out, therefore, for a bridge over the Flatzbach, we turned off the main road and found a pleasant little green road amongst larch and arolla trees on the western side of the valley. Many of the larch trees appeared almost dead, the leaves being all brown, because eaten and discoloured by one of the *Tortrix* larva, which thus by its multitudes is able to effect the colouring of the landscape. I believe it is the larva of *Pœcilochroma occultana* which does this mischief; the arolla trees are much infested with the *Ocnerostoma* discovered in the Engadine by my excellent friend Senator von Heyden, and which he aptly named, on account of its extreme abundance, *Copiosella*. From this side of the valley we had a fine view of a little stream which dashed down the face of a nearly perpendicular rock on the eastern side of the valley. After walking for nearly half an hour along the undulating track, whence we only occasionally obtained glimpses of the Morteratsch glacier, we found that its distance from us had scarcely sensibly decreased, and thus were led to realize the deceptiveness of distance in Alpine districts, of which we had frequently read, but had not previously experienced. We now reached a plot of the "rose of the Alps," *Rhododendron ferrugineum*, and had the pleasure of plucking it for the first time; we also met with several Alpine species of *Saxifraga* and *Sedum*, and on the *Vaccinium Vitis Idæa* I found a few mines of *Lithocolletis Vacciniella*.

At length we reached the foot of the Morteratsch glacier, but were disappointed from the surface being so covered with the detritus of rocks, that it was difficult to conceive we were looking at a solid lump of pure ice; the perpendicular face of it did look rather cleaner, and showed here and there a delicate blueish tinge. The archway through which the stream found its way from the foot of the glacier had

indeed a fine effect; but still, taking the glacier as a whole it was not what we had expected; the fault probably, however, lay not in the glacier, but in our expectations. Whilst we were waiting at the foot of the glacier we heard a peculiar loud shrill whistle on the hills above us, which I have since ascertained was the cry of the marmot.

In returning from the glacier I met with Professor Hering, who was bound on a similar pilgrimage, along with other Entomologists, amongst whom was Herr Mengelbier of Aachen, and Dr. Herrich-Schäffer, who had just arrived, and had immediately turned out to enjoy the Alpine scenery. Dr. Herrich-Schäffer had brought with him from Ratisbon a living specimen of the new *Depressaria*, lately bred by himself and by Herr Friedrich Hofmann from *Artemisia Absinthium*. We made an arrangement all to meet at the Weisses Kreuz in the evening, and they continued their route to the glacier, whilst we retraced our steps to Pontresina, very well satisfied that in our first day, which had opened so inauspiciously, we had contrived to visit the Morteratsch glacier.

In the evening I went to the Weisses Kreuz, where our Entomological party consisted of Herr Benteli of Berne, Herr von Heinemann of Brunswick, Professor Hering of Stettin, Dr. Herrich-Schäffer of Ratisbon, Herr Schmidt of Wismar, Dr. Staudinger of Dresden, and myself. The main question was, in what direction should we explore the country the following day. I found that the prevailing opinion was in favour of the Val da Fain, the opening to which lay a little beyond the Bernina Inn. If the morning proved fine my German friends proposed to start off at seven o'clock; I did not promise to be with them so early as that, but I thought I could manage to meet them in the Val da Fain before they should have proceeded far, knowing well that the pace at which a party of Entomologists moves in good collecting-ground is not very rapid.

I found when I returned to the Krone that night that my fellow-travellers were quite ready for an excursion the next day, so that it only depended upon the weather. I rose early the next morning, and on looking out found to my delight it was perfectly fine. I then turned out the *Depressaria* larva from the *Laserpitium*, wrote a description of it, and packed up two or three in a small box to send by the post to England to be figured. I then wrote one or two letters, and it being now 7 o'clock I was just going out to see if any of my friends were passing, when Dr. Staudinger called to say that they were just off to the Val da Fain. I told him I was not ready to start just then, but would meet him in the Val da Fain before the day was far advanced. I then went over to the Krone and made the necessary arangements with the landlord; we were to have a vehicle to go to the summit of the Bernina Pass and back again. Having completed the arrangement we had then to discuss our breakfasts, and make all necessary preparations, and at nine o'clock we started off up the valley. The day was really delicious, perfectly cloudless, all the lower peaks with a sprinkling of snow, and the true snow peaks of the Bernina range standing out magnificently against the deep blue sky; the chaffinch (the only song-bird we heard there) warbled to us as we passed him, and our road when opposite the Morteratsch glacier rose rapidly in a series of zigzags. Thinking that by the time my fellow-travellers had been to the Bernina Pass, they would be tolerably hungry before they arrived back at Pontresina, I stopped our driver when opposite the Bernina Inn, and ordered a dinner there to be ready against their return. (I may here mention incidentally, in case any one wishes to know what accommodation the Bernina Inn affords, that both my fellow-travellers agreed it was by far the best dinner that they got in the Engadine; and this fully confirmed the experience we had had in Italy,

as for instance, at Tivoli, where we got a better dinner than ever we had in Rome,—that out-of-the-way places frequently provide far more bountifully for the passing traveller than more established places of resort.) Soon after leaving the Bernina Inn we were opposite the entrance to the Val da Fain, and the Entomologists were already visible brandishing their nets, so I left the carriage party to pursue their journey to the Bernina Pass, and turning up the Val da Fain soon overtook in succession all my friends.

The Val da Fain is so called on account of the excellent hay it produces—the same causes that make the hay good contribute, I presume, to the luxuriant carpet of Alpine flowers with which it is decked—but far more startling to me than the profusion of flowers, was the lavish abundance of butterflies: it was one of those astonishing sights that almost seemed to render one breathless. *Colias Phicomone* flew in scores; *Melitææ* and *Erebiæ* were literally in hundreds, frequently four or five on a flower; *Erebia Gorge* especially attracted my attention, flashing in the sunshine nearly all the colours of the rainbow; *Parnassius Delius* occasionally diversified the scene, as also *Chrysophanus Chryseis*, whilst of blues and skippers there really seemed no end. Such a scene for abundance and variety of *Rhopalocera* I had never conceived, and I believe I may truly say, without the slightest exaggeration, that I saw in that one day, July 13th, 1865, more butterflies than in the whole of my previous life put together. Nor had the *Rhopalocera* the scene entirely to themselves: there were *Zygæna Exulans*, *Procris Chrysocephala*, the two yellow under-winged *Plusiæ*, *Devergens* and *Divergens*, plenty of *Psodos alpinata*, *Cleogene lutearia* (*Tinctaria*) by fifties, and *Botys Rhododendralis* by hundreds!

Herr von Heinemann kindly directed my attention to a

small low-growing shrub, *Daphne laureola*, on which, between united leaves of the terminal shoots, the larvæ of the scarce *Anchinia laureolella* were to be found. We must have been a little late for them, for we found far more habitations empty than tenanted; however I contrived to collect about half a dozen of the larvæ, but I was surprised that we saw no symptoms whatever of the pupæ, and the pupa *ought* to be naked, angulated and attached to the stem of the *Daphne*—perhaps in its mode of pupation this species differs somewhat from others of the genus. In this locality also I again met with the mines and empty pupa-skins of *Lithocolletis Vacciniella*.

After proceeding leisurely along the valley for some time, Dr. Herrich-Schäffer suggested that we should ascend gradually in a slanting direction, then make our mid-day bivouac and proceed back along the higher level. Accordingly we moved gradually upwards till we came to a deep ravine, down which there ran a considerable stream, which descended from a rocky height above us, partially covered with snow. From the point where we rested we had a fine view of the upper and stonier end of the valley, where at no great distance from us was the frontier of Italy. On the opposite side of the valley were several patches of snow considerably below us, but on our side the nearest snow-field was some height above us. Dr. Staudinger, who had got considerably ahead of us, was much above us, and had been some distance above the snow where he had met with specimens of *Erebia Alecto*, and a beautiful blue snapdragon.

All along the valley wherever we had to cross a little mountain rill, there grew in the middle of the soft boggy ground tufts of the beautiful blue Gentians (*Gentiana verna* and *nivalis*), rivalling in colour the blue of an Italian sky.

After a halt of nearly an hour's duration we proceeded along the higher level we had attained down the valley, and

from our different altitude we commanded quite a different view from that we had had whilst ascending the valley; it was when we had proceeded about half the distance which we had to traverse that the view became of the finest. The upper part of the valley was still in sight, and along the main valley leading to the Bernina Pass, the two lakes, the black lake which feeds the Danube, and the white lake which feeds the Po, were distinctly perceptible, and on the hill above the latter was the Cambrena glacier, the water from which, of the usual milky-white colour of glacier streams, give its peculiar colour to the white lake. The form of the Val da Fain, not so very unlike a sickle, the steep declivities on each side, the roar of the mountain stream, which when the eyes were closed you could almost fancy was the roaring of the sea, the two different coloured lakes, the snowy peaks of the Bernina range, the cloudless deep blue sky, the endless variety of the flowers and insects around me, all formed such a scene of enchantment as will long remain deeply engraved upon my memory. I fear that in such a scene I felt dreadfully lazy and little inclined for work, yet the sight of a bush of *Cotoneaster* reminded me of *Ornix Pfaffenzelleri*, though I sought in vain for any symptoms of the larva of that species.

The descent from the elevation we had attained brought us to some broken and stony ground, but in time we safely reached the valley, and Professor Hering and I sat down on a grassy slope awaiting those who were behind us. After a little time I discovered that the ground on which we were sitting had been only a few weeks earlier a perfect blaze of one of the Alpine primroses, (not *Primula farinosa*, but more like *Primula scotica*). The sight of this and the number of Anemone heads in full seed satisfied me that earlier in the season the flowers in that valley must still look surpassingly

beautiful. Professor Hering assured me that the flowers generally speaking were much more gone off than usual at that period of the year; the season had been an unusually early one in that part of the world and hence flowers were past and insects much wasted, and, as he assured me, not so plentiful as usual; but I am sure Professor Hering will excuse me when I say that on this my first visit to the Alps it seemed utterly impossible that insects ever could be more plentiful than I then saw them.

After waiting some time for our friends we decided to proceed leisurely to the Bernina Inn, where we were soon after joined by other three of our party, and we there feasted on some delicious trout. Dr. Herrich-Schäffer, who had remained collecting to the last moment, did not appear till fully three quarters of an hour after our arrival at the Bernina Inn, thus indicating that though the oldest of the party, he was not by any means wanting in fire and energy.

I set off back to Pontresina at half past five along with Dr. Staudinger, but as evening drew on he saw so many moths flying in the woods around us that he turned off to capture them when about half way to Pontresina, and I continued the walk alone, arriving at Pontresina in the very nick of time, just as supper was being served.

That afternoon we had succeeded in obtaining rooms in the hotel, and our room, though not as large as that where we had previously lodged, commanded a fine view up the Val Roseg. The night was clear and the snow peaks showed cold and grey against the sky.

The morning of July 14th directly I woke I was reminded of our change of domicile, by seeing a lofty mountain streaked with snow as I lay in bed. On looking out of the window I saw the grass on the valley white with hoar frost, the day, again brilliant and cloudless, excursionists were already

stirring, and I saw two chars turning down a small road which I calculated must be that leading to the Roseg glacier.

Having made no Entomological appointment for that day I thought we could not do better than pay a visit to the Roseg glacier; as I saw it from our bedroom window it looked so temptingly close and so much cleaner and brighter than the Morteratsch glacier that I thought it would well repay a visit.

At breakfast we that morning tasted the honey. Swiss honey may be very good at Zürich, Lucerne, &c., but Pontresina honey is something very different, and as much superior to ordinary Swiss honey as champagne is to vin ordinaire. We never afterwards omitted to eat the honey regularly whilst we remained at Pontresina.

On inquiry as to the distance we were from the Roseg glacier and the time it would take us to reach it, I found that, deceived by the clearness of the atmosphere, it was much further off than it looked; still, as I understood we could drive nearly to the foot of the glacier, we set off and jolted along in the springless char up the rough road in the valley: we crossed the stream and kept for some time along the north side of the valley, where we soon found that the sun was very warm, notwithstanding the cool thin air and the frost of the early morning; presently we passed Professor Hering and Herr Schmidt, who, net in hand, were working their way up the valley. After a time the road crossed over to the southern side of the valley, and kept closer to the edge of the stream, which we found much more pleasant and cooler. We drove past whole fields of Rhododendrons and again we crossed the stream, soon after which we reached the point beyond which we must proceed on foot.

We therefore left the char, and, taking our provisions with us to be consumed at the foot of the glacier, we proceeded along the little footpath faintly marked along the northern

side of the valley; at times we found our best plan was to descend into the bed of the torrent, but occasionally, when a main stream came close to the bank, this course was impracticable, and we then had to clamber over the rocks along the bank as best we could. *Colias Phicomone*, *Parnassius Delius*, *Erebia Gorge*, and various species of *Melitæa*, enlivened the scene, and nearly every boggy piece of ground we had to cross was gay with the blue flowers of the Gentian. Light clouds chequered the sky and occasionally moderated the heat of the sun; but the snowy peaks immediately before us remained always clear and distinct, only the fleeting shadows of clouds on their sides served to break their otherwise uniform monotony—the last part of the approach we again descended into the bed of the stream and thus by degrees came actually up to the glacier. It was then past midday, and the hot sun baking upon the whole surface of the glacier caused it to pour forth copious streams from above, from below and at the sides.

In purity of surface this glacier was no very great improvement upon the Morteratsch glacier, though the upper portion of it, which we saw from our hotel, looked so much whiter at a distance. From time to time the melting of the glacier dislodged some of the stones on its surface, and one such, about two feet square by one foot deep, having made a slip of a few inches, led us to speculate whether if it lost its balance altogether it might not come and fraternise with a very similar stone on which we were sitting; we therefore retreated to a more convenient distance and devoured with considerable appetite the provisions we had brought with us. As a relic I brought home from the foot of this glacier a specimen of *Perla microcephala*, which had got blown into the stream.

We had not proceeded far along the footpath on our return before we descried Professor Hering on the opposite side of

the valley, industriously working his way towards the glacier; then we reached the point where we had left the char, and again had the pleasure of being well jolted as we rode back to Pontresina.

The letters I had received the previous day and the non-receipt of any fresh advice led me to the conclusion that the following day must be the last of our sojourn at Pontresina, so if we were to leave I thought it was as well to try and secure the *coupé* at once of the diligence from Samaden to Chur. I therefore walked over to Samaden, and was fortunate enough to secure the *coupé*. I found the walk a most agreeable one, for a new road having been made, the unused old one, which is steeper and shorter, serves as a pleasant footpath free from dust; and in addition to this you have frequently for a mile at a time a footpath on the turf.

In the evening I visited my friends at the Weisses Kreuz and informed them of my intended departure. Dr. Staudinger handed me some larvæ (referable I believe to a *Tortrix*) which he had found in the flowers of *Bellidiastrum Michelii*, and also one or two other larvæ, and begged me to return them to him the following day on the summit of Piz Languard. A dispute took place between Dr. Staudinger and Professor Hering as to which was the best locality in the Engadine for an Entomologist to make his head-quarters; Professor Hering advocated the claims of Samaden, but Dr. Staudinger gave the preference to Celerina. Where all the localities are so good it is very difficult to decide which is the best, but any Entomologist in doubt on the subject might safely try all the different localities in succession.

The morning of July 15th was again brilliantly fine, and now we were before our departure to attempt the Piz Languard. Does not Mr. Ball say in his Central Alps, p. 390, "a horse may be taken as far as the foot of the last

peak?" and was not the assumption therefrom justifiable that ladies could ride to the foot of the peak and back again, and would only have to use their own legs for the ascent and descent of the last peak? We had our breakfast earlier than usual and started on our ascent at half-past eight, having lost some little time in waiting for the horses. A young German gentleman, also bound for the Piz, asked to join our party, and being assured that when there were ladies it was best to take a guide to the Piz Languard, we were also provided with a guide; and as there was a lad to each horse, we formed quite an imposing cavalcade as we set off for the mountain. The road turns off up the hill before you are out of the village of Pontresina, and then ascends rather rapidly in zigzags through a wood of larch and arolla trees. After a time we got to a place where the ascent was more gentle, and we had fine views of the snow peaks; we passed along some Alpine pastures, where long-eared sheep and Bergamasque cattle were grazing, and gradually worked our way upwards, till we had fine views into the Engadine valley and could see the village of St. Moritz and the green little lake of St. Moritz at its foot. At one point of our ascent we had very fine views of the Morteratsch glacier, but at the foot of the last peak, the point beyond which we had all to trust to our own legs, an intervening ridge screened the Morteratsch glacier from our view.

Whilst ascending the hill we had met a led horse with no rider descending, but it had not occurred to us to draw the conclusion from this sight which we might have done. We now found, however, that the horse was only intended to take one *up* the hill, and that you were expected to find your own way *down* again. On remonstrating with the guide, he said it would not be safe to ride down, and certainly there were places, where I could well understand this might be the case, though there were long tracts of comparatively level

ground, where it should have been as easy to ride down as up. What our distance in miles from Pontresina was I could not conjecture, but we were nearly 3,000 feet above Pontresina, and except in a few places the ascent had been very gradual.

Well there was no help for it, if the horses could not carry their riders back, the riders must walk. One with proper forethought at once declared that having to walk back to Pontresina, an ascent of the peak was not to be thought of; my other fellow-traveller declared her readiness to make the ascent, and having rested, and eaten and drunk somewhat, we commenced our ascent of the peak. Owing to the clearness of the air I was now well aware that to attempt to judge of distance by the eye was very apt to mislead; but I had a pocket aneroid, from which, after we had been ascending some time, I gathered we had more than 1,500 feet still to go upwards, and I therefore interrogated the guide as to the time it would take us to reach the top—the answer, three-quarters of an hour, was not encouraging. However, we persevered a bit further, and were now far above the snow and *Ranunculus glacialis;* but on reaching a rocky crag, whence we had a very commanding view of our side of the mountain, I again asked the guide how much longer we should be, "A good half-hour" was the reply. On this I resolved to return; if we went up we should be away at least another hour, and one of our party was left alone at the foot of the peak; so we parted company from our German friend, and I gave him a message to Dr. Staudinger, in case he should meet him on the top of the Piz; from the point where we were we could see Dr. Herrich-Schäffer then just scaling the summit.

So we returned to the foot of the peak, and there sat enjoying

the magnificent semi-panorama before us. There were several large patches of snow considerably below us, and a little tarn lay at the foot of the ridge, which screened the Morteratsch glacier from our view, whilst above it the snowy peaks of the Bernina stood up boldly before us.

We had been sitting some time on this spot when we descried Dr. Staudinger descending from the Piz Languard with a celerity and sure-footedness perfectly marvellous to witness; in a very few minutes from his leaving the summit he was beside us, and I then returned him the larvæ he had handed to me the previous evening. He soon left us to collect some of the numerous insects peculiar to so great an elevation, and we took our way back to Pontresina. One very pretty Saxifrage we noticed, nestling close to a rock near one of the patches of snow, and as we were descending, our guide collected from a rocky crag a piece of *Gnaphalium Leontopodium*,—not, however, fully in bloom.

In the evening Herr von Heinemann, who had been in another direction, gave me some larvæ of *Lyonetia frigidariella*. I was fortunately able to describe this larva, but they were all so nearly full fed that I despaired of being able to send any to England to be figured, and did not attempt it. The post takes three days between the Engadine and London, which is too long a period for many of the smaller larvæ.

The following morning we left Pontresina for Samaden, where we took the diligence. Professor Hering and Herr Schmidt also travelled by the same diligence to Silvaplana, where they intended to spend their last day in the Engadine. We soon mounted the hill behind Silvaplana and made for the Julier Pass, and thus terminated "My First Visit to the Engadine."

NEW BRITISH LEPIDOPTERA SINCE 1853.

By H. T. Stainton, F.L.S.

In the first volume of the "Entomologist's Annual," that for 1855, I gave a list of the new British Lepidoptera since 1835, with notices of their first capture and subsequent occurrence, and then gave a more detailed account of the new species detected in this country in the year 1854; each subsequent volume of the "Annual" has contained notices of the new species observed during the previous season, so that the novelties since 1853 are scattered through the pages of eleven volumes, and the labour of referring to individual notices is sometimes considerable.

Five years ago I gave a tabular index to the new species in the six previous volumes of the "Annual;" but the time seems now come when a more detailed and systematic reference would be desirable, giving concisely not only the original announcement, but also any subsequent notices that have appeared in our pages, respecting the occurrence, &c., of the new species added to our lists since the year 1853.

SPHINGINA.

1. Procris Geryon, *Hübner*, E. A. 1864, p. 122, distinguished from *P. Statices* by the discovery of the larva by the Rev. E. Horton—its occurrence in various localities noted; E. A. 1865, pp. 97 and 109, continued progress of the Rev. E. Horton's investigations.

2. Anthrocera Minos, *Wiener Verzeichniss*, E. A. 1855, p. 62, captured in some numbers in the west of Ireland, by Mr. A. G. More; E. A. 1857, p. 113, captured in abundance, by Mr. Birchall and Mr. Wright; E. A. 1862, pp. 50—68, "A Chapter on *Zygæna Minos*," being a series of notes on this insect by Zeller, Freyer, Hering, Herrich-Schäffer, Newman, and Doubleday; a figure of this species is given in the Plate of the E. A. 1855 (Fig. 1); it is also represented on the cover of the E. A. 1855, 2nd edition.

3. Trochilium Chrysidiforme, *Esper*, E. A. 1856, p. 28, one captured at Folkestone by Mr. Brewer; E. A. 1857, p. 114, several taken near Folkestone; E. A. 1858, p. 100, again occurred near Folkestone; a figure of this species is given in the Plate of the E. A. 1856 (Fig. 1).

4. Trochilium Scoliæforme, *Borkhausen*, E. A. 1856, p. 27, captured in Wales by Mr. Ashworth; E. A. 1863, p. 150, four specimens bred and three captured by Mr. N. Cooke; E. A. 1864, p. 127, bred by Mr. Gregson; E. A. 1865, p. 110, taken at Llangollen by Mr. Birchall; a figure of this species is given in the Plate of the E. A. 1857 (Fig. 4).

5. Trochilium Philanthiforme, *Laspeyres*, E. A. 1861, p. 83, several taken by Mr. King near Torquay, two also in Cornwall—one taken by Mr. Reading in Cornwall.

BOMBYCINA.

6. Notodonta bicolora, *Fabricius*, E. A. 1859, p. 146, one taken near Killarney by Mr. Bouchard; E. A. 1860, p. 139, another taken near Killarney by Mr. Bouchard; E. A. 1862, p. 115, one captured in Burnt Wood, Staffordshire; E. A. 1865, p. 109, again captured at Killarney by

Mr. Bouchard; a figure of this species is given in the E. A. 1859 (Fig. 4).

7. Petasia nubeculosa, *Esper*, E. A. 1855, p. 63, one captured at Rannoch by Mr. Cooper; E. A. 1856, p. 45, another taken at Rannoch by Mr. Almond; E. A. 1857, p. 114, several taken at Rannoch by Mr. Foxcroft; E. A. 1858, p. 100, taken in some numbers in the north of Perthshire.

8. Clostera anachoreta, *Fabricius*, E. A. 1860, p. 128, several bred by Dr. Knaggs from larvæ found in the neighbourhood of London; E. A. 1864, p. 127, larva noticed near Folkestone by Mr. Sidebotham; E. A. 1865, p. 109, two larvæ found near Folkestone by Mr. Meek; a figure of this species is given in the Plate of the E. A. 1860 (Fig. 1).

9. Lithosia Caniola, *Hübner*, E. A. 1862, p. 106, several taken on the Irish coast by Mr. Barrett; E. A. 1863, p. 150, a fine series captured on the Irish coast by Mr. Birchall; E. A. 1864, p. 127, taken both in the perfect and larva states by Mr. Birchall, near Howth; E. A. 1865, p. 110, again taken and bred by Mr. Birchall.

10. Lithosia Sericea, *Gregson*, E. A. 1862, p. 106, distinguished from *L. complanula* [the locality of its occurrence (near Manchester) was unfortunately omitted].

NOCTUINA.

11. Bryophila Algæ, *Fabricius*, E. A. 1860, p. 129, two specimens captured near Manchester.

12. Leucania Vitellina, *Hübner*, E. A. 1857, p. 98, one captured at Brighton by Mr. Henry Cooke; E. A. 1861, p. 98, one captured in the Isle of Wight; E. A. 1863,

p. 150, one captured in the Isle of Wight by Mr. Rogers; this species is represented on the cover of the E. A. 1861.

13. Leucania extranea, *Guenée*, E. A. 1860, p. 129, one specimen captured in the Isle of Wight, one taken near Lewes; a figure of this species is given in the Plate of the E. A. 1860 (Fig. 2).

14. Leucania putrescens, *Hübner*, E. A. 1860, p. 130, three specimens captured near Torquay by Mr. Stewart, others by Mr. Battersby; E. A. 1861, p. 98, again captured near Torquay, also near Teignmouth; E. A. 1862, p. 116, several captured by Mr. Stewart near Torquay, also near Teignmouth; E. A. 1863, p. 150, taken rather freely near Torquay by Mr. Stewart; E. A. 1864, p. 127, taken in some numbers near Torquay; a figure of this species is given in the Plate of the E. A. 1862 (Fig. 2).

15. Leucania Loreyi, *Duponchel*, E. A. 1864, p. 122, two captured near Brighton by Mr. Thorncroft.

16. Tapinostola Bondii, *Knaggs* (*Nonagria*), E. A. 1861, p. 84, many specimens captured at Folkestone; E. A. 1864, p. 127, six taken at Lyme Regis by Mr. Wormald; E. A. 1865, p. 110, found commonly near Folkestone by Mr. Meek.

17. Nonagria Elymi, *Treitschke*, E. A. 1862, p. 108, two or three captured in the Norwich Fens by Mr. Winter and Mr. Crotch; a figure of this species is given in the Plate of the E. A. 1862 (Fig. 1).

18. Nonagria Brevilinea, *Fenn*, E. A. 1865, p. 105, one captured at Ranworth by Mr. C. Fenn; a figure of this species is given in the Plate of the E. A. 1865 (Fig. 3).

19. Luperina Gueneei, *Doubleday*, n. sp. E. A. 1864, p. 123, three specimens taken in Wales.

20. Miana expolita, *Doubleday*, n. sp. taken in plenty near Darlington, by Mr. Law and Mr. Sang; E. A. 1856, p. 46, and E. A. 1857, p. 116, again taken at Darlington; E. A. 1858, p. 101, taken in Galway, in Ireland, by Mr. N. Cooke and Mr. Birchall.

21. Agrotis Ashworthii, *Doubleday*, n. sp. (*Spælotis Vallesiaca*, Stainton, non H.-S.), E. A. 1855, p. 63, many captured in North Wales; E. A. 1856, p. 46, and E. A. 1857, p. 116, taken rather freely in North Wales; E. A. 1863, p. 151, taken freely by Mr. Gregson, near Llangollen; E. A. 1864, p. 127, and E. A. 1865, p. 111, taken by Mr. Birchall at Llangollen; a figure of this species is given in the Plate of the E. A. 1855 (Fig. 2).

22. Noctua flammatra, *Fabricius*, E. A. 1860, p. 130, one captured by Mr. Rogers in the Isle of Wight; a figure of this species is given in the Plate of the E. A. 1861 (Fig. 1).

23. Dianthæcia Capsophila, *Boisduval*, E. A. 1861, p. 86, several taken in Ireland; E. A. 1862, p. 117, again captured in Ireland by Mr. Barrett; E. A. 1864, p. 128, and E. A. 1865, p. 111, taken at Howth by Mr. Birchall, also reared from the larva.

24. Dianthæcia Barrettii, *Doubleday*, n. sp. E. A. 1864, p. 124, one taken near Dublin by Mr. Barrett, and one by Mr. Birchall; a figure of this species is given in the Plate of the E. A. 1864 (Fig. 3).

25. Phlogophora Empyrea, *Hübner*, E. A. 1856, p. 30, several taken at sugar near Brighton; E. A. 1858, p. 62, taken in some numbers between Lewes and Brighton; E. A. 1860, p. 140, again taken near Lewes; E. A. 1864, p. 128, taken near Brighton by Mr. Wright; a figure of

this conspicuous species is given in the Plate of the E. A. 1856 (Fig. 2).

26. Hadena Peregrina, *Treitschke*, E. A. 1859, p. 147, one taken in the Isle of Wight by Mr. Bond; E. A. 1860, p. 141, one taken by Mr. M'Lachlan in the Isle of Wight.

27. Xylina conformis, *Wiener Verzeichniss*, E. A. 1862, p. 108, several captured in South Wales.

28. Acontia Solaris, *Wiener Verzeichniss*, E. A. 1860, p. 131, one captured near Brighton by Mr. Percy Andrews; a figure of this species is given in the Plate of the E. A. 1860, (Fig. 5).

29. Micra parva, *Hübner*, E. A. 1859, p. 147, two taken near Torquay by Dr. Battersby; a figure of this species is given in the Plate of the E. A. 1859 (Fig. 1).

30. Toxocampa Craccæ, *Wiener Verzeichniss*, E. A. 1863, p. 148, four captured in North Devon by the Rev. E. Horton; E. A. 1865, p. 112, others taken by the Rev. E. Horton in North Devon; a figure of this species is given in the Plate of the E. A. 1863 (Fig. 3).

31. Catephia Alchymista, *Wiener Verzeichniss*, E. A. 1859, p. 148, one taken in the Isle of Wight by Dr. Wallace; a figure of this species is given in the Plate of the E. A. 1860 (Fig. 3).

GEOMETRINA.

32. Acidalia contiguaria, *Hübner* (*Dosithea Eburnata*, Wocke), E. A. 1856, p. 31, several taken in Wales by Mr. Weaver; E. A. 1861, p. 101, one taken near Conway by Mr. Hague; E. A. 1865, p. 112, taken near Bangor by Mr. Kendrick; a figure of this species is given in the Plate of the E. A. 1856 (Fig. 4).

33. Acidalia Herbariata, *Fabricius* (*Dosithea circuitaria*, Hübner), E. A. 1856, p. 31, one captured *in* London by Mr. Hunter.

34. Lythria purpuraria, *Linné*, E. A. 1862, p. 108, two taken near Perth by Mr. Morrison.

35. Sterrha Sacraria, *Linné* (*Aspilates*), E. A. 1858, p. 87, one captured at Plymouth by Mr. Rogers; E. A. 1860, p. 142, one captured near Barnstaple, two near London; E. A. 1864, p. 128, one taken at Banstead Downs by Mr. Hall, and one by Mr. Bouchard; this species is represented on the cover of the E. A. 1860.

36. Eupithecia tripunctaria, *Herrich-Schäffer*, E. A. 1862, p. 109, bred by the Rev. H. Harpur Crewe from larvæ on the flowers and seeds of *Angelica sylvestris;* E. A. 1862, p. 38, larva described by the Rev. H. Harpur Crewe; E. A. 1862, p. 46, notice of the larva by the Rev. H. Harpur Crewe; E. A. 1863, p. 127, notes on the habits by the Rev. H. Harpur Crewe; E. A. 1865, p. 113, taken at Blackheath by Mr. J. Fenn, and near Exeter, by Mr. D'Orville.

37. Eupithecia trisignaria, *Herrich-Schäffer*, E. A. 1862, p. 109, bred by the Rev. Joseph Greene from larvæ on *Angelica sylvestris;* E. A. 1862, p. 40, larva described by the Rev. H. Harpur Crewe; E. A. 1862, p. 46, notice of the larva by the Rev. H. Harpur Crewe; E. A. 1863, p. 127, notes on the habits by the Rev. H. Harpur Crewe; E. A. 1865, p. 113, bred by Mr. Barrett from larvæ found at Haslemere.

38. Eupithecia Helveticaria, *Boisduval*, E. A. 1858, p. 87, bred by Mr. Logan from larvæ collected on the Pentlands; E. A. 1861, p. 133, larva described by the Rev. H.

Harpur Crewe; E. A. 1863, p. 123, larva again described by the Rev. H. Harpur Crewe.

39. Eupithecia Arceuthata, *Freyer*, E. A. 1863, p. 121, bred from larvæ found in Buckinghamshire by the Rev. H. Harpur Crewe; E. A. 1863, p. 122, larva described by the Rev. H. Harpur Crewe.

40. Eupithecia viminata, *Doubleday*, E. A. 1859, p. 148, occurrence among osiers; E. A. 1863, p. 123, larva described by the Rev. H. Harpur Crewe.

41. Eupithecia Fraxinata, *Crewe*, n. sp. E. A. 1863, p. 116, bred from larvæ on ash by the Rev. H. Harpur Crewe; E. A. 1863, p. 119, description of the perfect insect by the Rev. H. Harpur Crewe; E. A. 1863, p. 120, description of the larva by the Rev. H. Harpur Crewe; E. A. 1865, p. 113, bred by Mr. Meek, and captured at Haslemere by Mr. Barrett; E. A. 1865, p. 123, several varieties of the larva described by the Rev. H. Harpur Crewe.

42. Eupithecia Lariciata, *Freyer*, E. A. 1865, p. 106, captured by Mr. Eedle, also Mr. Hopley, at Leith Hill, and in Ashdown Forest; E. A. 1865, p. 121, larva described by the Rev. H. Harpur Crewe; a figure of this species is given in the Plate of the E. A. 1865 (Fig. 6) [In the explanation of the Plate, and in the reference at p. 107, that figure is erroneously stated to be *E. Campanulata*].

43. Eupithecia Campanulata, *Herrich-Schäffer*, E. A. 1865, p. 107, bred from larvæ collected by the Rev. H. Harpur Crewe; E. A. 1865, p. 122, larva described by the Rev. H. Harpur Crewe.

44. Cidaria Reticulata, *Wiener Verzeichniss*, E. A. 1862, p. 110, three specimens taken at the Lakes by Mr. Allis, also taken in the same locality by Mr. Hodgkinson;

E. A. 1864, p. 128, five captured in the Lake District by Mr. Bond and Mr. Hodgkinson; a figure of this species is given in the Plate of the E. A. 1864 (Fig. 6).

45. Eubolia mæniata, *Scopoli*, E. A. 1855, p. 64, one taken many years ago near Carlisle; a figure of this species is given in the Plate of the E. A. 1855 (Fig. 3).

PYRALIDINA.

46. Sophronia Emortualis, *Wiener Verzeichniss*, E. A. 160, p. 132, one captured at Brighton by Mr. Pocock; E. A. 1861, p. 101, one taken by the Rev. B. H. Birks.

47. Diasemia Ramburialis, *Duponchel*, E. A. 1859, p. 149, one captured by Mr. Boyd in Cornwall; a figure of this species is given in the Plate of the E. A. 1859 (Fig. 3).

48. Margarodes Unionalis, *Hübner*, E. A. 1860, p. 133, three specimens captured near Torquay by Mr. King; E. A. 1862, p 118, one captured by Mr. Stewart at Torquay; a figure of this species is given in the Plate of the E. A. 1860 (Fig. 4).

49. Scopula decrepitalis, *Fischer von Röslerstamm* (*Botys*), E. A. 1856, p. 32, one taken by Mr. Hodgkinson; E. A. 1857, p. 118, taken by Mr. Buxton in Ross-shire.

50. Nola Centonalis, *Hübner*, E. A. 1859, p. 149, one taken in the Isle of Wight by Dr. Wallace.

51. Nola Albulalis, *Hübner*, E. A. 1861, p. 86, three captured by Dr. Allchin, near Chatham, one by Mr. Chaney; a figure of this species is given in the Plate of the E. A. 1861 (Fig. 3).

52. Eudorea Atomalis, *Doubleday*, n. sp. E. A. 1855, p. 64, captured in Scotland by Mr. Weaver.

53. Eudorea gracilalis, *Doubleday*, n. sp. E. A. 1855, p. 65, captured in Scotland by Mr. Weaver.

54. Acrobasis rubrotibiella, *Mann* E. A. 1859, p. 149, two taken by Mr. M'Lachlan, near Forest Hill.

55. Nyctegretes Achatinella, *Hübner*, E. A. 1857, p. 99, two captured at Folkestone by Mr. Stevens and Mr. Tompkins; E. A. 1865, p. 114, taken at Yarmouth, in Norfolk, by Mr. T. Brown.

56. Crambus Cassentiniellus, *Mann*, E. A. 1855, p. 65, one taken some years back near Brighton.

57. Crambus ocellea, *Haworth*, E. A. 1862, p. 110, one taken in Glamorganshire in March.

58. Chilo Paludellus, *Hübner* (*C. obtusellus*, Stainton), E. A. 1856, p. 33, several taken in Hornsey Fen; E. A. 1858, p. 102, several captured in the Norfolk Fens; E. A. 1861, p. 102, taken at Ranworth by Mr. Winter; a figure of this species is given in the Plate of the E. A. 1856 (Fig. 5).

TORTRICINA.

59. Lozotænia latiorana, n. sp. (*Tortrix*), E. A. 1857, p. 100, several captured by Mr. Stevens at Southend.

60. Catoptria parvulana, *Wilkinson*, n. sp. E. A. 1850, p. 150, taken in the Isle of Wight by Mr. Bond; E. A. 1865, p. 114, taken in the Isle of Wight by Mr. J. Fenn.

61. Catoptria conterminana, *Herrich-Schäffer*, E. A. 1864, p. 125, several taken by Mr. Bond near Folkestone; taken also by Mr. Machin near Stratford; a figure

of this species is given in the Plate of the E. A. 1864 (Fig. 1).

62. DICRORAMPHA TANACETI, n. sp. E. A. 1857, p. 101, several taken at Crewe by Mr. Thompson.

63. PŒCILOCHROMA HAWKERANA, *Stevens*, n. sp. (*Mixodia*), E. A. 1856, p. 33, several taken on Hayling Island, Hants, by Mr. Stevens and the Rev. W. H. Hawker; E. A. 1857, p. 119, taken by Mr. Bond; E. A. 1865, p. 113, taken at Bournemouth by Mr. Blackmore; a figure of this species is given in the Plate of the E. A. 1857 (Fig. 3).

64. RETINIA RESINELLA, *Linné*, E. A. 1855, p. 65, bred freely from larvæ collected in Perthshire by Mr. Bouchard.

65. RETINIA DUPLANA, *Hübner*, E. A. 1856, p. 34, bred by Mr. Scott and captured by Mr. Bouchard.

66. CNEPHASIA CINCTANA, *Wiener Verzeichniss*, (*Sciaphila*), E. A. 1858, p. 88, several captured near Dover, by the Rev. S. C. Tress Beale; a figure of this species is given in the Plate of the E. A. 1858 (Fig. 4).

67. EUCHROMIA RUFANA, *Scopoli*, E. A. 1864, p. 146, several specimens captured by Mr. Hodgkinson in the Lake district.

68. ARGYROLEPIA MARITIMANA, *Guenée*, E. A. 1856, p. 34, captured and bred by Mr. Harding near Deal; E. A. 1857, p. 120, again taken by Mr. Harding near Deal.

69. EUPŒCILIA ALBICAPITANA, *Cooke*, E. A. 1862, p. 111, taken at Howth by Mr. N. Cooke, and on the Cheshire coast by Messrs. Gregson and Greening; E. A. 1863, p. 152, Mr. Birchall notices that this flies among *Statice armeria*.

TINEINA.

70. Tinea fuscescentella, *Gregson*, E. A. 1860, p. 134, taken at Liverpool by Mr. Gregson.

71. Tinea dubiela, *Gregson*, E. A. 1860, p. 133, bred by Mr. Gregson from larvæ which fed on dry pupa skins.

72. Tinea merdella, *Zeller*, E. A. 1857, p. 102, many captured at Liverpool by Mr. Gregson.

73. Tinea confusella, *Herrich-Schäffer*, E. A. 1862, p. 111, several captured by Mr. Barrett among grass on the cliffs near Dublin.

74. Depressaria bipunctosa, *Curtis*, E. A. 1858, p. 89, several taken in the Isle of Wight by Mr. Bond; E. A. 1861, p. 108, several taken in the Isle of Wight by Mr. M'Lachlan.

75. Depressaria Rhodochrella, *Herrich-Schäffer* E. A. 1860, p. 134, taken at Blackpool by Mr. Edleston, has also occurred at Epping.

76. Depressaria Olerella, *Zeller*, E. A. 1865, p. 128, six specimens captured by Mr. Barrett, near Haslemere.

77. Depressaria Libanotidella, *Schläger*, E. A. 1857, p. 103, one captured at Newhaven by Mr. Turner.

78. Gelechia pinguinella, *Treitschke*, E. A. 1865, p. 129, several specimens taken near London on poplars.

79. Gelechia intaminatella, *Stainton*, E. A. 1861, p. 86, captured by Mr. Eales near Darlington; E. A. 1864, p. 165, bred on the Continent from *Achillea millefolium*.

80. Gelechia Viscariella, *Logan*, n. sp. E. A. 1855, p. 65, several bred by Mr. Logan, from *Lychnis viscaria*, near Edinburgh; E. A. 1857, p. 124, bred by Mr. T. Wilkinson from *Lychnis dioica*, near Scarborough; E. A. 1858, p. 106, again bred from larvæ collected by Mr. T. Wilkinson near Scarborough.

81. GELECHIA LEUCOMELANELLA, *Zeller*, E. A. 1859, p. 150, bred from larvæ found in Cornwall by Mr. Boyd; E. A. 1862, p. 130, collected by Mr. Barrett on the coast near Dublin.

82. GELECHIA OCELLATELLA, *Stainton*, E. A. 1859, p. 151, captured by Mr. Boyd in Cornwall; also bred from larvæ collected there by him.

83. GELECHIA ALBIPALPELLA, *Herrich-Schäffer*, E. A. 1858, p. 90, three bred from larvæ collected near Horsell; larvæ also found near York by Mr. Scott.

84. GELECHIA SANGIELLA, n. sp. E. A. 1863, p. 149, captured by Mr. Sang at Darlington.

85. GELECHIA ARUNDINETELLA, *Zeller*, E. A. 1858, p. 91, one bred by Mr. Boyd from larvæ collected near Hackney.

86. GELECHIA LATHYRI, n. sp. E. A. 1865, p. 130, bred from larvæ collected by Mr. T. Brown near Cambridge; a figure of this species is given in the Plate of the E. A. 1865 (Fig. 1). [This is not really an *addition* to our lists, being the *G. nigricostella* of the "Insecta Britannica" and of the "Manual."]

87. GELECHIA? OSSEELLA, n. sp. E. A. 1861, p. 87, taken freely on the wing in hot sunshine by Mr. T. Wilkinson near Scarborough.

88. GELECHIA TARQUINIELLA, n. sp. E. A. 1862, p. 112, several captured on the sand-hills near Dublin by Mr. Barrett.

89. GELECHIA SUBDECURTELLA, n. sp. E. A, 1859, p. 152, two captured in the Cambridge Fens by Mr. Bond; E. A. 1862, p. 130, bred by Mr. T. Brown from larvæ on *Lythrum salicaria*.

90. Cleodora striatella, *Wiener Verzeichniss*, E. A. 1856, p. 36, one captured at Lewisham; E. A. 1857, p. 125, one captured near Brighton by Mr. Cooke; E. A. 1858, p. 107, several captured by the fen collectors; a figure of this species is given in the Plate of the E. A. 1856 (Fig. 6).

91. Ypsolophus Juniperellus, *Linné*, E. A. 1855, p. 66, bred from larvæ collected in Scotland by Mr. Bouchard.

92. Harpella Bracteella, *Linné*, E. A. 1859, p. 152, several taken near Gateshead by a young collector; E. A. 1861, p. 109, one captured in Monmouthshire by Mr. Scott; a figure of this species is given in the Plate of the E. A. 1859 (Fig. 2).

93. Acrolepia marcidella, *Curtis*, E. A. 1861, p. 88, captured by Mr. Mitford and Mr. Bond.

94. Röslerstammia Pronubella, *Wiener Verzeichniss*, E. A. 1855, p. 67, one captured in Sutherlandshire by Mr. Buxton; a figure of this species is given in the Plate of the E. A. 1856 (Fig. 8).

95. Glyphipteryx Cladiella, n. sp. E. A. 1859, p. 153, collected by Mr. Bond in Wicken Fen, near Cambridge.

96. Glyphipteryx Schœnicolella, *Boyd*, E. A. 1859, p. 133, found in Cornwall by Mr. Boyd, swarming amongst *Schœnus nigricans*. Mr. Boyd also collected the pupæ and reared the perfect insect.

97. Gracilaria Kollariella, *Zeller*, E. A. 1862, p. 113, a specimen detected by Mr. M'Lachlan in the British collection of the British Museum; it had been purchased of Mr. Bouchard.

98. COLEOPHORA LIMOSIPENNELLA, *Fischer von Röslerstamm*, E. A. 1855, p. 67, several bred from larvæ collected near Sutton. Larvæ also collected in plenty near Box Hill.

99. COLEOPHORA BICOLORELLA, *Stainton*, E. A. 1861, p. 89, bred from larvæ collected in some plenty at Hackney by Mr. Sayer.

100. COLEOPHORA WILKINSONI, *Scott*, E. A. 1862, p. 114, bred by Mr. T. Wilkinson from larvæ feeding on birch.

101. COLEOPHORA VITISELLA, E. A. 1857, p. 106, several bred from larvæ collected near Manchester by Mr. Gregson and Mr. Hague.

102. COLEOPHORA SICCIFOLIA, n. sp. E. A. 1856, p. 37, bred from larvæ collected abundantly at Lewisham.

103. COLEOPHORA MELILOTELLA, *Scott*, E. A. 1861, p. 88, bred from larvæ collected by Mr. Scott near Stockton-on-Tees; also captured by Mr. Allis in the same locality.

104. COLEOPHORA CHALCOGRAMMELLA, *Zeller*, E. A. 1858, p. 93, bred by Mr. T. Wilkinson from larvæ collected near Scarborough; a figure of this species is given in the Plate of the E. A. 1858 (Fig. 3).

105. COLEOPHORA IBIPENNELLA, *Heyden*, E. A. 1858, p. 92, several bred from larvæ collected by Mr. Bond.

106. COLEOPHORA ARDEÆPENNELLA, *Scott*, E. A. 1861, p. 89, several bred by Mr. Scott from larvæ collected at Darenth and Dulwich woods.

107. COLEOPHORA GENISTÆ, n. sp. E. A. 1857, p. 104, bred from larvæ collected at Newcastle by Mr. Wailes, at

Wanstead by Mr. Miller, and in the New Forest by Mr. Boyd.

108. Coleophora Inflatæ, n. sp. E. A. 1857, p. 105, one captured near Mickleham, others bred from larvæ collected by Mr. Boyd.

109. Coleophora apicella, n. sp. E. A. 1858, p. 93, several taken by Mr. Bond in the Cambridgeshire Fens.

110. Coleophora Virgaureæ, n. sp. E. A. 1857, p. 105, bred freely from larvæ collected near Exeter by Mr. Parfitt.

111. Coleophora Artemisiella, *Scott*, E. A. 1861, p. 89, bred from larvæ collected by Mr. Scott at Stockton-on-Tees; also captured by Mr. Allis in the same locality.

112. Coleophora squamosella, n. sp. E. A. 1856, p. 37, two taken near Mickleham by Mr. Douglas.

113. Coleophora Salinella, n. sp. E. A. 1859, p. 154, several captured at Seaford by Mr. Douglas; E. A. 1860, p. 145, two bred from larvæ found on the seeds of *Atriplex portulacoides*.

114. Goniodoma auroguttella, *Fischer von Rösler-stamm*, E. A. 1855, p. 68, one taken in the Isle of Wight by Mr. Stevens; a figure of this species is given in the Plate of the E. A. 1855 (Fig. 4).

115. Cosmopteryx orichalcea, n. sp. E. A. 1860, p. 90, one taken in the Cambridge Fens by Mr. T. Brown, two captured in the New Forest by Mr. Farren; E. A. 1864, p. 168, notice of the habit of this species near Stettin.

116. Laverna conturbatella, *Hübner*, E. A. 1857, p. 107, collected on Box Hill by Mr. F. O. Standish and Mr. Machin; a figure of this species is given in the Plate of the E. A. 1857 (Fig. 2.)

117. Laverna Raschkiella, *Tischer*, E. A. 1857, p. 108, several collected on Box Hill by Mr. F. O. Standish and Mr. Machin; a figure of this species is given in the Plate of the E. A. 1857 (Fig. 3).

118. Asychna profugella, *Zeller*, n. sp. E. A. 1856, p. 38, one taken at Kemsing, in Kent, by Mr. J. N. Winter.

119. Elachista flavicomella, n. sp. E. A. 1856, p. 39, two captured at Howth by Mr. Shield.

120. Elachista Gregsoni, *Stainton*, n. sp. E. A. 1855, p. 70, several bred by Mr. Gregson.

121. Elachista stabilella, *Stainton*, E. A. 1859, p. 154, distinguished from *E. consortella;* it occurs at Headley Lane, near Mickleham.

122. Elachista perplexella, *Stainton*, E. A. 1859, p. 155, distinguished from *E. subnigrella;* has occurred at Beckenham, Scarborough, and near Edinburgh.

123. Elachista Poæ, *Douglas*, n. sp. E. A. 1855, p. 69, occurred in plenty at Southend, Greenwich, Hackney, &c.

124. Elachista cingillella, *Fischer von Röslerstamm*, E. A. 1859, p. 155, one taken in the north of England in Mr. Allis's collection.

125. Elachista tæniatella, *Zeller*, E. A. 1857, p. 109, bred from larvæ collected by Mr. Scott at Stockton-on-Tees.

126. Elachista paludum, *Frey* (*E. Caricis*, Stainton), E. A. 1859, p. 155, bred from larvæ collected at Ranworth by Mr. W. Winter; E. A. 1861, larvæ collected by Mr. W. Winter at Beccles.

127. Tischeria angusticollella, *Heyden*, E. A.

1858, p. 94, four specimens bred by Mr. Edleston; E. A. 1860, p. 146, again bred by Mr. Edleston; larvæ found also plentifully near Sheffield.

128. Lithocolletis Bremiella, *Zeller*, E. A. 1856, p. 40, bred from larvæ collected in plenty near Bexley; a figure of this species is given in the Plate of the E. A. 1856 (Fig. 7).

129. Lithocolletis Cavella, *Zeller*, E. A. 1855, p. 71, one bred from a birch-leaf from West Wickham; several captured on the Addington Road Fence.

130. Lithocolletis Vacciniella, *Scott*, n. sp. E. A. 1855, p. 70, many bred by Mr. Scott at Fochabers, and by Mr. Weaver in Perthshire.

131. Lithocolletis Torminella, *Frey*, E. A. 1857, p. 109, several bred from larvæ near Lewisham; E. A. 1862, p. 139, bred by Mr. M'Lachlan, from a morella cherry tree at Exeter.

132. Cemiostoma Wailesella, *Stainton*, E. A. 1859, p. 156, distinguished from *C. Laburnella* and *C. Spartifoliella*, has occurred at Tunbridge Wells, near Newcastle-on-Tyne, and at Mottram; E. A. 1861, p. 113, occurrence in some plenty near Liverpool; E. A. 1862, p. 139, notice of the habits of the larva.

133. Cemiostoma Lotella, *Stainton*, E. A. 1859, p. 156, bred from larvæ collected by Mr. T. Wilkinson, near Scarborough; E. A. 1862, p. 139, the insect here noticed under this name has proved a distinct species, and is described further on in the present volume under the name of *Cemiostoma Lathyrifoliella*.

134. Opostega spatulella, *Guenée*, E. A. 1860, p. 135, four taken by Mr. Tompkins at Southend, in Essex.

135. NEPTICULA TILIÆ, *Frey*, E. A. 1860, p. 136, bred freely by Mr. Vaughan from larvæ collected near Bristol.

136. NEPTICULA POMELLA, *Vaughan*, E. A. 1859, p. 157, bred by Mr. Vaughan from larvæ in the leaves of apple trees.

137. NEPTICULA CRYPTELLA, *Frey*, n. sp. E. A. 1856, p. 41, three captured by Mr. Douglas in Headley Lane; E. A. 1857, p. 129, larvæ plentiful on *Lotus;* E. A. 1858, p. 112, the larvæ very abundant in Headley Lane.

138. NEPTICULA WEAVERI, *Douglas*, n. sp. E. A. 1855, p. 71, several bred from larvæ collected by Mr. Weaver; a figure of this species is given in the Plate of the E. A. 1855 (Fig. 5).

139. NEPTICULA MYRTILLELLA, *Edleston*, E. A. 1858, p. 95, several bred by Mr. Edleston from larvæ collected near Manchester.

140. NEPTICULA LUTEELLA, n. sp. E. A. 1857, p. 110, bred by Mr. Boyd from one of the birch miners.

141. NEPTICULA ARCUATA, *Frey*, E. A. 1858, p. 97, bred by Mr. Boyd from the leaves of *Potentilla fragariastrum*.

142. NEPTICULA ATRICOLLIS, n. sp. E. A. 1857, p. 112, bred by Mr. Boyd from larvæ in wild apple and hawthorn.

143. NEPTICULA POTERII, n. sp. E. A. 1858, p. 96, several bred from larvæ collected near Mickleham.

144. NEPTICULA BETULICOLA, n. sp. E. A. 1856, p. 42, bred from larvæ found plentifully in birch leaves in Headley Lane by Mr. Douglas.

145. Nepticula Castanella, *Edleston*, E. A. 1860, p. 135, taken by Mr. Edleston, among Spanish chestnuts.

146. Nepticula Sorbi, n. sp. E. A. 1861, p. 91, bred from larvæ found plentifully in the leaves of the mountain ash by Mr. T. Wilkinson near Scarborough.

147. Nepticula Glutinosæ, n. sp. E. A. 1858, p. 96, bred by Mr. Wilkinson from larvæ collected near Scarborough.

148. Nepticula Prunetorum, *Stainton*, n. sp. E. A. 1855, p. 72, several bred from larvæ found at Loudwater by Mr. Boyd.

149. Nepticula Regiella, *Frey*, E. A. 1857, p. 110, one captured on Dartford Heath, one bred by Mr. Edleston.

150. Nepticula continuella, n. sp. E. A. 1856, p. 42, one bred from birch leaves at Lewisham.

151. Nepticula Ulmivora, *Frey*, E. A. 1862, p. 115, one bred by Mr. M'Lachlan from elm leaves collected near West Wickham; one captured by Mr. Tompkins.

152. Nepticula Alnetella, n. sp. E. A. 1856, p. 43, several bred from larvæ collected near Beckenham, also by Mr. Law from larvæ near Darlington; E. A. 1857, p. 130, larvæ common at Reigate and Beckenham.

PTEROPHORINA.

153. Pterophorus Zetterstedtii, *Zeller*, E. A. 1856, p. 44, several captured by Mr. Boyd at Lynmouth, North Devon.

154. Pterophorus plagiodactylus, *Fischer von Rös-*

lerstamm, E. A. 1856, p. 45, collected freely in Wales, and in Cumberland by Gregson and others.

155. PTEROPHORUS LOEWII, *Zeller*, E. A. 1858, p. 97, captured by Mr. Gregson and Mr. Davis near Southport; E. A. 1860, p. 143, bred by Professor Henslow from larvæ feeding in the capsules of *Chlora perfoliata*.

Besides the foregoing, three other novelties have been announced in the pages of the Annual.

XANTHIA OCELLARIS, *Borkhausen*, E. A. 1859, p. 147, a specimen captured near Brighton. There is a note on this insect in the "Zoologist" for 1859, p. 6503, by Mr. R. Anderson, and the conclusion there come to was, that the Brighton specimen was not the true *Ocellaris*, but only a variety of *Xanthia gilvago*.

SIMÆTHIS PARIETARIÆ, *Stainton*, n. sp. E. A. 1855, p. 64, founded on specimens bred from larvæ found by Mr. Harding on *Parietaria Officinalis*. I have since satisfied myself that these were only *S. Fabriciana*.

SWAMMERDAMIA PRUNI, *Stainton*, E. A. 1859, p. 150; this was founded on an error, a specimen of one of the *Cæsiella* group of the genus having been reported as bred from a larva which has since proved to be that of *Apicella*. *S. Pruni* is therefore altogether a mythical creature, which has no existence in nature.

On the other hand two novelties appear to have escaped systematic enumeration altogether, viz.

LITHOCOLLETIS INSIGNITELLA, *Zeller*, which has been

bred by Mr. T. Wilkinson, Mr. Allis, and Mr. Sang from larvæ in the leaves of clover—it is incidentally noticed in the E. A. 1862, p. 139, "I believe Mr. Allis has British specimens of this insect."

Tischeria Dodonæa, *Stainton*, incidentally mentioned E. A. 1859, p. 160, as answer to Enigma, No. 36, which is given in the E. A. 1858, p. 116, and mentions the mine of the larva having been collected freely at Abbey Wood and West Wickham Wood. The name *Dodonæa* also occurs in the "Entomologist's Weekly Intelligencer," vol. iv. p. 176, vol. v. p. 171, and in the "Natural History of the Tineina," vol. iii. pp. 230, 236, and 240.

A retrospective glance at our additions in the last eleven years will afford some very interesting results.

In the first place additions to our lists arise from two very different causes—

1°. The capture of specimens which are at once recognized as something strange—such as *Phlogophora Empyrea*, *Sterrha sacraria*, &c.

2°. The discovery of species already in our collections, but which had been confounded with some closely allied species—such as *Procris Geryon*, *Lithosia sericea*, &c.

And it must also further be borne in mind that we may meet with a new species by pure chance, or as in the case of *Eupithecia campanulata*, *Lithocolletis Bremiella*, &c., we may look for it and at once find it, having previously ascertained the habits of the species from the observations of Continental Entomologists.

But, further, of the conspicuous novelties detected in the last few years some, though extremely local, occur pretty

constantly in their respective localities—such as *Leucania putrescens*, *Agrotis Ashworthii*, *Phlogophora Empyrea*, *Petasia nubeculosa*, and many others.

A few have occurred only singly, and their appearance may have been entirely accidental—such as *Noctua flammatra*, *Acontia Solaris*, *Catephia Alchymista*, &c.

Others again have occurred singly in several localities—such as *Leucania Vitellina* (both at Brighton and in the Isle of Wight), *Leucania extranea* (in the Isle of Wight and at Lewes), and *Sterrha sacraria*.

The gradual way in which the last-mentioned insect has come amongst us is one of the most curious features of recent Lepidopterology.

The first capture of this insect took place at Plymouth, on the 28th September, 1857. It was thus noticed in the "Entomologist's Weekly Intelligencer" of October 31st, 1857:—

"*Extraordinary capture.*—On the 28th of September "my brother took, at a street gas-lamp in Plymouth, a "*Geometra*, which I could not make out; and Mr. Reading "informed me that he considered it a new species. I for- "warded a drawing of it to Mr. Doubleday, from whom I "learn that it is *Aspilates sacraria*. CHARLES ROGERS, "11, *St. Andrew's Street, Plymouth; October 17th*, 1857."

And following this was the subjoined editorial note:—

"[*Aspilates sacraria* (a pale-yellow insect, with a purple "stripe obliquely from the tip of the fore-wings to the "middle of the inner margin,) was originally taken in "Barbary. Thunberg, in 1784, records the species in his "'Insecta Suecica;' but its occurrence so far north has "hitherto been doubted.]"

In the "Intelligencer" of November 14th, 1857, appeared a more detailed account of this capture, as follows :—

" *Aspilates sacraria.*—I now send a few additional par-
" ticulars of this capture. I was with my brother when he
" took it : it was at rest on the iron framework of the lamp
" about 10 P.M., its wings meeting over its back, and form-
" ing a very inclined roof. I showed it to several friends
" before killing it, although I did not know it was any-
" thing rare. It certainly is a very singular time for its
" appearance, so many months after the proper times.—
" C. ROGERS, *St. Andrew's Street, Plymouth; October*
" *27th,* 1857."

The notice of the insect in the " Entomologist's Annual " for 1858 is throughout of an apologetic nature, as though the possibility of its occurrence in England was almost more than some Entomologists could believe. After premising that " Our list of novelties includes only two of the *Macro-Lepidoptera,* belonging to the *Geometrina* (and one of these, it is true, may be only an accidental visitor, and as much an indigenous British animal as the tiger which lately perambulated Ratcliffe Highway)," &c., it proceeds, after referring to the capture of *Sacraria* already cited from the " Intelligencer :"—

" Future investigation must show whether this has been
" an accidental importation, or whether this species has any
" claims to be considered truly British.

" Mr. Wollaston remarks, ' that all the species common
" to Madeira and the British Islands are found in the south-
" western extremity of our country and of Ireland;' the
" occurrence of a Mediterrancan species would therefore be
" more probable in that portion of Great Britain than else-
" where.

"The occurrence of the insect in Sweden was recorded by "Thunberg in 1784.

"It will be remarked further on, that one of the *Plumes* "first taken at Rhodes and subsequently in Italy, but not "known as occurring in central or northern Europe, has "been this season met with on the Lancashire coast.

"As the capture of Mr. Rogers' specimen in September "has been considered very extraordinary, it is interesting to "know that Mr. Wollaston took this insect in Madeira *at* "*the end of September.*"

In the "Intelligencer" of August 21st, 1858, a figure of the insect was given, and it was there stated, p. 162, that "a specimen was taken a few years back near Torquay, and "is now in the collection of Dr. Battersby."

In the "Intelligencer" of September 11th, 1858, p. 191, Mr. Barrett announces some *captures at light* "within the last few weeks in the London district;" amongst them we find

Aspilates sacraria (1).

I apprehend some announcement of this capture must have appeared on the wrapper of the "Zoologist," as at p. 6249 of that publication (in the volume for 1858) we read as follows:—

"*Sterrha sacraria, a British Insect.*—There is a record "of the capture of a *second* specimen of *Sterrha sacraria* "on the wrapper of the September 'Zoologist;' I call it a "*fourth* British specimen of *Sacraria*. I possess the first, "taken by Mr. House near Bristol; Mr. Reading records a "second, taken near Plymouth; Dr. Battersby a third, "taken near Torquay; Mr. Barrett's is therefore the fourth; "unless some further information be given, perhaps his "specimen may be doubted.—J. C. Dale, *Glanville's* "*Wootton, near Sherborne; September* 13*th*, 1858."

In the year 1859 the captures of this insect increase in number. One was captured by Mr. Button on a gas-lamp at Clapham Common, August 11th, and, as Mr. Edward Newman was known to be sceptical as to its occurrence in this country, was shown to him alive the same evening. (Zoologist, 1859, p. 6693. Intelligencer, vol. vi. p. 179.)

Another was captured near Barnstaple by Mr. G. F. Mathew, August 23rd. (Intelligencer, vol. vi. p. 179.)

Another was taken at a gas-lamp at Croydon, October 5th (Zoologist, 1859, p. 6789), where Mr. Newman announces that "several other specimens of *S. sacraria* "have occurred in different parts of the south of England "during the past month."

I do not find any record of its occurrence again with us till 1863—though it must be presumed that collectors were rather keenly on the look out for so striking an insect; and in the spring of 1863 Mr. G. F. Mathew had published in the pages of the "Weekly Entomologist," vol. ii. p. 84, a notice of the habits of the insect, as observed by him at Lisbon and Gibraltar, where it was not at all uncommon in October.

The next recorded capture was on the 21st August, 1863, when two were captured near Sutton,—a female by Mr. G. W. Hall and a male by Mr. Bouchard. (Zoologist, 1863, p. 1784.)

Again a year passes away without the occurrence of the species being recorded; but in the year 1865 the insect again puts in an appearance—one was captured, July 18th, at Hove, near Brighton, by Mr. Alfred Kirby (Entomologist's Monthly Magazine, vol. ii. p. 92); one, August 19th, near Worthing, by Master W. J. Wilson (Ent. Monthly Magazine, vol. ii. p. 92); one, September 5th (at sugar), near Exeter, by Mr. D'Orville (Ent. Monthly Mag. vol. ii.

p. 115); one, September 9th, near Ryde, by Mr. Ingram (Ent. Monthly Mag. vol. ii. p. 134), and another seen; and one captured by Mr. Dale in the Isle of Wight.

Yet eight years have scarcely elapsed since it seemed perfectly incredible that so southern a species should occur amongst us. The notion that so slight and frail an insect crosses the Channel on the wing is deemed incredible by many; yet, looking at the vast proportion of the recent additions to our *Macro-Lepidoptera* which have occurred on our southern coast and in the Isle of Wight, I am disposed to fancy that there are more cases of immigration than is generally supposed. But an immigrant may become a settler in the case of an insect as truly as in the case of the Romans, Saxons, Danes, and Normans; and one of the female specimens of *Sacraria* taken this season laid after her capture only a very few eggs; so that probably the greater proportion of them had already been deposited, and will thus tend to continue the species in the neighbourhood of Worthing.

The appearance and disappearance of insects—the restriction of some to such very confined localities, whilst others closely allied are of general distribution—are subjects of extreme interest to the philosophical student of Entomology.

One more paragraph and I must conclude this chapter.

In the preceding pages I have referred only to the notices of the species that have appeared in the pages of former volumes of the "Annual." Thus, to take a conspicuous example in No. 8, *Clostera anachoreta*, no allusion is made to the extraordinary number of specimens bred by Dr. Knaggs by continuing to breed from the insect year after year; and again, in No. 85, *Gelechia arundinetella*, the species appears to stand upon a single specimen, whereas I have myself bred more than one specimen of the perfect

insect and repeatedly collected the larvæ in plenty; also No. 114, *Goniodoma auroguttella*, has, if I remember rightly, been taken in some plenty in the Isle of Wight, both by Mr. Bond and by Mr. Stevens, though the only record in the pages of the "Annual" has been the capture of a single specimen.

COLEOPTERA.

New British Species, Corrections of Nomenclature, &c., noticed since the Publication of the Entomologist's Annual, 1865.

By E. C. Rye.

Our national "institution" of starting a conversation with remarks upon the weather will, on the present occasion, be less a matter of form than usual; for I presume that the extent of the following list of novelties must, in a great measure, be owing to the long continued and excessive heat of the past summer. It is certainly not due to the great number of workers; since most of the additions to our lists are owing to the exertions of Messrs. Sharp, Crotch, Matthews and Power, and myself,—Messrs. Hislop, Brewer, C. Waterhouse and Janson each contributing one species. Nevertheless, from no former single year's work has there been recorded in the "Entomologist's Annual" so much good result; whether having reference to the number of species new to science or to Britain,—to the interesting nature or unexpected occurrence of some of those species,—to the general occurrence, often in large numbers, of rare insects,—or (as regards British Coleopterists) to the extension of acquaintance with Continental opinions; the latter arising chiefly from the energy of Mr. G. R. Crotch.

Of the 105 notices contained in the present paper, 8

refer to species purporting to be new to science, and described from British specimens; 56 to species recorded as British for the first time, and of which 38 are unquestionably entitled to rank as distinct and indigenous, whilst 18 are either of dubious specific value, or scarcely entitled to be considered truly natives of this country; and the remaining consist of changes in nomenclature, corroborations of former additions or suspicions, &c. Two genera new to us, *Borboropora* and *Anisoxya*, and additional species of *Cryptocephalus*, *Myrmedonia*, *Leptura*, *Bembidium*, and *Apion*, are perhaps most note-worthy; the *Apion* especially so, as it is some time since hope of a fresh one for England has been abandoned, owing to the exhaustive work of Messrs. Walton and Stevens in that genus.

The following are notes of general captures noticed since last Annual:—

GEODEPHAGA. *Lebia hæmorrhoidalis*, Sidebotham, Devizes; *Dromius sigma*, *Ros.*, Power, inland; *D. longiceps*, obtained by Brewer from Norfolk, in some number; *Elaphrus Lapponicus*, Sharp and Rye, Clova; *Calathus nubigena*, do. do.; *Anchomenus livens*, Tylden, Hythe; *Carabus auratus*, Lydekker, Torbay (unfortunately the inevitable "double-barrell" pin-hole); *Amara rufocincta*, Rye, Carshalton,—Brewer and Power, Reigate; *Bradycellus collaris*, Sharp and Rye, Clova; *Stenolophus flavicollis*, Brewer, in quantity, Isle of Wight; *Bembidium Fockii*, Bold, recaptured, Newcastle; *B. paludosum*, Blackburn, plentifully, Ashley.

HYDRADEPHAGA. *Agabus arcticus* and *congener*, Sharp and Rye, Rannoch; *Hydroporus celatus*, Power, Surbiton; *H. nitidus*, Hey, York; *H. halensis*, Sharp and Crotch, hundreds, Horning; *H. ferrugineus*,

latus, &c., Sharp, near Edinburgh; *Laccophilus variegatus*, Sharp and Power, Deal.

BRACHELYTRA. *Autalia punctcollis*, Sharp and Rye. Rannoch,—Sharp and Henderson, Gareloch; *Dinarda Märkellii*, Wilkinson, Scarborough; *Homalota currax*, Blackburn, Westmoreland,—Sharp, near Edinburgh, common; *H. velox*, Sharp and Rye, Rannoch,—and Sharp, near Edinburgh; both *Phytosi*, Bold, Hartley; *P. nigriventris*, Young, Paisley; *Schistoglossa viduata*, Bold, Newcastle,—Sharp and Rye, Rannoch,—Sharp, commonly near Edinburgh,—Blackburn, Westmoreland; *Haploglossa gentilis*, Power, Birdbrook (common),—Power and Brewer, Mickleham,—always with *Formica fuliginosa*; *Leptusa analis*, Sharp and Rye, Rannoch; *Tachinus elongatulus*, do. do. (and Clova); *T. pallipes*, do. do.,—Bold, Newcastle; *Gymnusa variegata*, Sharp, Clova, and not unfrequently near Edinburgh, wet moss; *G. brevicollis*, Sharp, Rannoch,—Garneys, Repton; *Euryporus picipes*, Sharp and Rye, Rannoch; *Mycetoporus nanus*, Bold, Newcastle; *Quedius xanthopus*, *lævigatus*, *umbrinus*, and *fulvicollis*, Sharp and Rye, Rannoch; *Staphylinus latebricola*, Rye, do.,—Sharp, Tilgate Forest; *Stilicus similis*, Bishop, Mickleham; *Stenus atratulus*, Bold, Hartley; *Stenus brevicollis* and *Lesteva* (*monticola*?) Sharp and Henderson, Gareloch; *Anthophagus alpinus*, Sharp, Clova—Blackburn, Coniston; *Geodromicus globulicollis*, do. do.; *Acidota cruentata*, Rye, King's Road, Chelsea! (Nov.); *Omalium exiguum*, Rye, Cobham,—Sharp, Shirley; *O. Allardi*, Bold, Hartley; *Micropeplus tesserula*, Edleston, Grange; *Pseudopsis*, Power, Reigate.

NECROPHAGA. *Sphærites glabratus*, Sharp, Rannoch,—

Turner, do.; *Epuræa longula*, Sharp and Power, Surbiton; *Agaricophagus cephalotes*, *Anisotoma parvula*, *Hydnobius strigosus* and *punctatus*, Power, Surbiton; *Liodes glabra* and *castanea*, *Agathidium rotundatum*, and *Omosita depressa*, Sharp and Rye, Rannoch; *Colon latus* and *serripes*, Young, Paisley; *Cryptophagus pubescens* and *Monotoma brevicollis*, Sharp; *Rhizophagus politus*, Rooke, Monmouthshire; *Dermestes undulatus*, Power, Seaton; *Dendrophagus crenatus*, Hislop, Rannoch,—Turner, Scotland; *Euthia plicata* and *Thalycra sericea*, Power, Surbiton; *Oxylæmus variolosus*, Power, Mickleham; *Mycetophagus* 4-*guttatus*, Crotch, Cambridge, with *F. fuliginosa*; *Atomaria Hislopi*, Hislop, Sharp, and Rye, Rannoch,—Sharp and Henderson, Gareloch; *A. ferruginea*, Power, Mickleham, and Birdbrook (with *F. fuliginosa*); *A. fimetarii*, Pelerin, London district, and F. Waterhouse, Carshalton; *Abræus granulum*, Crotch, Cambridge; *Morychus æneus*, Sharp, Aberlady,—Hislop, Sharp, and Rye, Rannoch; *Syncalypta setigera*, Waterhouse and Rye, Seaford; *Helophorus arvernicus*, Sharp, near Edinburgh, plentifully,—Blackburn, Ashley.

Lamellicornes. *Oxythyrea stictica*, Sidebotham, Grange—[This insect has not been found again, though Messrs. Sidebotham and Edleston have purposely again visited the locality at the same time of the year as that when it was first taken. I happen to have a non-entomological friend residing on the spot (kindly shown me by Mr. Sidebotham, who furnished me with a map of the ground), to whom I have sent a foreign type of the insect, with instructions as to its habits, &c. He duly sends me up divers common things, but no *Oxy-*

thyrea]; *Aphodius tessulatus*, Sharp, Edinburgh, common; *A. fœtidus*, Rye, Rannoch; *A. Zenkeri*, Power and Sharp, in profusion (*stercore ovino*), Mickleham.

STERNOXI. *Trachys pygmæus*, E. Saunders, Lowestoft; *T. nanus*, Power and Brewer, Mickleham; *Diacanthus impressus*, Sharp and Rye, Rannoch, abundant; *Cryptohypnus maritimus*, Sharp and Rye, shores of Loch Rannoch.

MALACODERMI. *Dictyopterus Aurora*, Hislop, Sharp, and Rye, Rannoch, abundant; *D. minutus*, Barber, Bristol; *Hydrocyphon deflexicollis*, Blackburn, Westmoreland; *Prionocyphon serricornis*, Wilkinson, Scarborough (ants' nest); *Telmatophilus Sparganii*, Sharp, Horning,—Tylden, Hythe; *Cis lineato-cribratus*, Sharp and Rye, Rannoch, plentiful; *Apate capucina*, Smith, Bishop's Wood.

HETEROMERA. *Pyrochroa pectinicornis*, Turner, "Scotland"; *Osphya bipunctata*, Crotch, Monk's Wood; *Hypulus quercinus*, Barber, Bristol (several); *Dircæa lævigata*, Turner, Scotland.

RHYNCHOPHORA. *Brachytarsus varius*, E. A. Waterhouse, Hampstead,—Crotch, Monk's Wood; *Apion Schönherri*, Rye and Waterhouse, Seaford; *A. Curtisii* and *A. lævicolle*, do. do. in profusion; *Sitones cambricus*, Brewer, Isle of Wight, plentiful; *S. Waterhousei*, Power, Seaton,—Rye and Waterhouse, Seaford, abundant,—Blackburn, Isle of Wight; *Ceuthorhynchus setosus* and *viduatus*, Power, Surbiton; *C. hirtulus*, Sharp and Rye, Aberlady; *C. verrucatus*, Brewer, Worthing; *Gymnetron rostellum*, Power, Birch Wood; *Poöphagus nasturtii*, Tylden, Hythe; *Pissodes notatus*, *Anthonomus pubescens*, and *Brachonyx indigena*, C. Turner, "Scotland"; *Otiorhynchus*

maurus, *monticola* and *septentrionis*, Sharp and Rye, Rannoch; *Omias sulcifrons*, Sharp, near Edinburgh, several; *Trachyphlæus alternans*, Waterhouse and Rye, Seaford; *Cœnoposis fissirostris*, Rye, Wickham; *Pachyrinus* 4-*nodosus*, Power, Mickleham, and Reigate,—Tylden, Hythe; *Trachodes hispidus*, Holyoak and Harris, Buddon Wood; *Pentarthrum Huttoni*, Reading (bred); *Xyloterus lineatus*, Sharp and Rye, Rannoch; *Hylastes cunicularius*, Rye, Shirley.

Longicornes. *Leptura sanguinolenta*, Winter, Norfolk Fens; *Asemum striatum*, Sharp and Rye, Rannoch (abundant).

Eupoda. *Orsodacna humeralis*, Crotch, Monk's Wood; *O. cerasi*, Rooke, Monmouthshire (common, in may-blossom); *Donacia aquatica*, Sharp and Rye, Rannoch and Clova (common); *Cryptocephalus bipustalatus*, Chappell, Manchester; *Chrysomela marginata*, Bold, Hartley; *Thyamis suturalis*, do. do.; *T. dorsalis*, Dale, Weymouth,—Power and Brewer, Mickleham.

Pseudotrimera. *Coccinella* 5-*punctata*, Sharp and Rye, Rannoch; *Platynaspis villosa*, Rye, Seaford; *Scymnus Mulsanti*, Waterhouse and Rye, Seaford,—Bold, Hartley,—Power, Reigate; *Symbiotes latus*, Power; *Nossidium pilosellum*, Power, Cambridgeshire (in profusion, on the surface of rotten wood); *Batrisus venustus*, Crotch, Cambridge; *Bryaxis simplex*, Sharp, shore of Medway; *Bythinus Curtisii*, Sharp, Purley (common); *Trichonyx Märkellii*, Waterhouse (several) and Rye, Seaford, (moss),—Matthews and Crotch, Cambridge (with *F. fuliginosa*, in a tree); *Euplectus Kirbyi*, Power and Sharp, Mickleham.

Want of space prevents me from entering into any account

of Mr. Dallas' work in the "Record of Zoological Literature," lately published by Van Voorst. It must be enough to say that the amount of information concerning the current transactions of societies, general works on *Coleoptera*, scattered papers, &c., brought together in that volume, is of surprising extent; and not only are most (if not all) of the last year's publications individually mentioned, but they are, for the greater part, digested very fully, and often accompanied by comments of the author. Of course, considering the area undertaken, and the short time allowed (especially since this is the first issue), it is not surprising that Mr. Dallas has been led into several errors, both of omission and commission, but mostly of small importance.

I will conclude these introductory remarks by drawing attention to the following list of species (upwards of one hundred in number), recorded in the last edition of M. de Marseul's Catalogue of European Coleoptera as occurring in Great Britain.

Dromius marginellus, *Fab.*, *Schaum.*
Dyschirius digitatus, *Dej.*, *Putz.*
——— rufipes, *Dej.*, *Putz.*, *Schaum.*
Calathus alpinus, *Dej.* (Styria, Caucasus.
var. nubigena, *Halid.*, *Dawson.*
Bembidium impressum, *Panz.*, *Duv.*
Hydroporus Sanmarki, *Sahlb.*
——— Lapponum, *Gyll.*
Helophorus fennicus, *Payk.*
Ochthebius bifoveolatus, *Waltl.*
hybernicus, *Curt.*
Aleochara crassiuscula, *Sahlb.*
tristis, *Er.*

Homalota longula, *Heer.**
thinobioides, Kr.
——— picea, *Mots.* (British *only*).
Diglossa submarina, *Fairm.*
Sunius unicolor, *Curt.*
Omalium conformatum, *Hardy.*
Bryaxis xanthoptera, *Reichenb.*
Bythinus nigripennis, *Aubé.*
Scydmænus punctipennis, *Steph.*
Ptilium nanum, *Steph.*
Ptenidium punctulum, *Steph.*
Scaphium immaculatum, *Ol.*, *Er.*
Hister caliginosus, *Steph.*, *Mars.*
—— prætermissus, *Peyr.*
? *nigritulus*, *Steph.*, *Mars.*
Saprinus semistriatus, *Steph.*, *Mars.*
——— violaceus, *Steph*, *Mars.*
Epuræa variegata, *Herbst*, *Er.*
——— affinis, *Steph.*
Rhizophagus parvulus, *Payk.*
Pediacus fuscus, *Er.*
Spavius glaber, *Gyll.*, *Er.*
Cryptophagus fumatus, *Gyll.*, *Er.*
Epistemus gyrinoïdes, *Marsh.*

* I possess a British specimen, sent to me with this name attached by Mr. Wollaston.

In De Marseul's Cat. this species is recorded both at p. 59 and p. 61; and a similar "double entry" occurs with respect to *Bembidium bisulcatum*, Chaudoir, formerly supposed to be synonymous with our *B. Clarkii*, from which, however, it is here given as distinct; that insect being placed in the section *Leja*, at p. 40, and repeated in another section of the same name at p. 42.

Lathridius rugicollis, *Ol.*, *Mann.*
——— hirtus, *Gyll.*, *Mann.*
——— rufus, *Curt.*
——— obsoletus, *Curt.*
Corticaria linearis, *Payk.*
Parnus montanus, *Curt.*
Heterocerus arenarius, *Kies.* (Britain *only.*)
Aphodius melanostictus, *Schmidt.*
——— maculatus, *Sturm.*
Bolboceras unicornis, *Schrank*, *Er.*
Hoplia graminicola, *Fab.*
Adelocera conspersa, *Gyll.*, *Cand.*
——— fasciata, *Linn.*, *Cand.*
Cryptohypnus Scotus, *Cand.* (Scotland *only.*)
——— frigidus, *Kies.*, *Cand.*
Limonius Bructeri, *Fab.*, *Cand.*
Athoüs subfuscus, *Muls.*, *Cand.*
Helodes angulosus, *Marsh.*, *Guér.* (British *only.*)
——— dubius, *Steph.*, *Guér.* (British *only.*)
Telephorus pilosus, *Payk.*, *Muls.* (Entom. ii. 171.)
Sinoxylon muricatum, *Fab.*, *Redt.*
Xylopertha sinuata, *Fab.*, *Germ.*
Salpingus bimaculatus, *Gyll.*, *Muls.*
Rhinosimus æneus, *Ol.*, *Muls.*
Anthicus constrictus, *Curt.*
Mordellistena axillaris, *Gyll.*
Rhipidius pectinicornis, *Thunb.*
Sitones inops, *Gyll.* (Ent. Monthly Mag. vol. i. 278, *note.*)
Otiorhynchus ambiguus, *Schö.*, *Stier.* (? *rugifrons, v.*)
Omias pellucidus, *Boh.*
Trachyphlæus digitalis, *Gyll.*

Phytonomus elongatus, *Payk.*, *Schön.*
mutabilis, *Germ.*
——— viciæ, *Gyll.*, *Schön.*
——— posticus, *Gyll.*, *Schön.*
——— palustris, *Schön.*
Dorytomus ventralis, *Steph.*
macropus, *Redt.*
——— fructuum, *Marsh.*, *Schön.*
Rhynchites tomentosus, *Gyll.*, *Schön.*
Magdalinus barbicornis, *Latr.*, *Schön.* (*nec* Steph.).
Orchestes semirufus, *Gyll.*, *Schön.*
——— pubescens, *Stev.*, *Schön.*
——— rhodopus, *Marsh.*, *Schön.*
——— tomentosus, *Gyll.*, *Schön.*
Tychius flavicollis, *Steph.*, *Bris.*
squamulatus, *Gyll.*, *Schön.*
—— flavicollis, *Schön.*, *Boh.*
—— lineatulus, *Germ.*, *Schön.*
Cionus hortulanus, *Marsh.*, *Schön.*
Ceuthorhynchideus Waltoni, *Boh.*, *Schön.*
Ceuthorhynchus uniguttatus, *Marsh.*, *Schön.*
Hylurgus minor, *Hartig*, *Redt.*
Bostrychus (Tomicus) bicolor, *Herbst*, *Ratz.*
fuscus, *Marsh.*, *Redt.*
Colaspidema ater, *Ol.*, *Rust.*
barbarus, *Fab.*, *Redt.*
Cryptocephalus gracilis, *Fab.*, *Suffr.*
Chrysomela carnifex, *Fab. Suff.*
——— lævicollis, *Ol.*, *Suff.*
——— elevata, *Suffr.* (Britain *only.*)
Lina 20-punctata, *Scop.*, *Suff.*
—— cuprea, *Fab.*, *Suff.*

Lina longicollis, *Suff.* (? *tremulæ*, *Wat. Cat.*)
Longitarsus Sisymbrii, *All.*
lateralis, *Foud.*
——————— Teucrii, *Allard.*
membranaceus, *Foudr.*
Phyllotreta procera, *Redt.*, *All.*
Aphthona abdominalis, *Duft.*, *All.*
Dibolia occultans, *Hoffm.*, *All.*
Psylliodes nigricollis, *Marsh.*, *All.*
Cassida sanguinosa, *Suff.*, *Boh.*
Triplax bicolor, *Marsh.*, *Lac.*
Murmidius ovalis, *Beck.*
Hippodamia 7-maculata, *De G.*, *Muls.*
Cynegetis impunctata, *Lin.*, *Muls.*
Alexia globosa, *Sturm.*, *Kust.*

The proverb to the effect that no man is a prophet in his own country is well exemplified by the above list; wherein are no less than twenty-four species by British authors, ranking as distinct on the Continent, but repudiated by British Entomologists.

I believe that hardly a score of M. de Marseul's so-called British species would stand the ordeal of thorough investigation. Very many of them are well known to us to be synonymous with, or varieties of, other recorded species,—from which, however, they are here quoted as distinct; some few owe (I should think) their introduction to typographical or other accidents; and it needs but a glance at the synonymy of Waterhouse's Catalogue to see how M. de Marseul has been induced, by the errors of Stephens and others, to imagine that we really possessed species which exist merely as names in their books, or are represented by other insects in their collections.

M. de Marseul's list may, however, act as a spur to English Coleopterists; if only by showing them what they are *expected* to take: and in their search for such genera as *Scaphium*, *Spavius*, *Bolboceras*, *Sinoxylon*, *Xylopertha*, *Rhipidius*, *Colaspidema*, *Murmidius*, and *Cynegetis* (to say nothing of a few new *Chrysomelæ*), it will be hard if *something* be not found requiring a record in future "Annuals."

1. Dyschirius extensus, Putzeys, Mon. des Cliv. &c. p. 46, sp. 49; E. C. Rye, "The Entomologist's Monthly Magazine," vol. ii. p. 87.

Mr. J. F. Dawson has sent to M. Putzeys a specimen of the *D. elongatulus* of the Geod. Brit. (kindly lent to me for that purpose by the Rev. H. Clark, who took it, with others, at Deal), which has been returned to him as the above species; M. Putzeys' name, being prior in date, must of course be retained.

This synonymy (as mentioned at p. 66 of the Ent. Annual for 1863) was suspected long ago by Mr. Waterhouse, in spite of the late Dr. Schaum having brought over his supposed type of *D. extensus*, which did not quite accord with Putzeys' description, or with our insect; the fact being, I believe, that the specimen taken in company, and supposed to be identical, with Dr. Schaum's insect, and from which Putzeys described his species, was different from the individual retained by Dr. Schaum.

2. Brachinus explodens, Dufts., Faun. Austr. ii. 234, 3; Schaum, Er. Ins. Deutschl. i. 241; J. A. Power, Ent. Monthly Mag. vol. i. p. 236 (*glabratus*).
var.? glabratus, Dej., Spec. i. 320, 52; Schaum, loc. cit. 242; E. C. Rye, Ent. Monthly Mag. vol. i. p. 259.

From Dr. Power's note, it appears that Mr. Murton, of

Silverdale, a Lepidopterist, on an excursion into Wastdale in June and July, 1863, had a collecting-bottle, into which he put beetles at random for Mr. Sidebotham of Manchester; and in this bottle the latter found three or four *Brachini*, taken most probably at Wastdale, though possibly at Silverdale, but certainly at one of those two places.

Dr. Power accurately remarks that one of these *Brachini*, given to him by Mr. Sidebotham, somewhat resembles a small specimen of *B. crepitans*, but differs from that species in the entire absence of all costation from its elytra, which are finely and closely punctate; and, moreover, that the head, being very much shorter, with much more prominent eyes, assumes a more rhomboidal form than in our common "Bombardier."

This insect appears to be the type form of *B. explodens*, Dufts.; a species allied to *B. crepitans*, but smaller, with shorter and somewhat more convex elytra, which are blue or green, and shining, with the striæ either very gently impressed, or almost obliterated. The antennæ have the third and fourth joints spotted with black; and these spots are conspicuous in Dr. Power's specimen. There appears to be a very rare variety of this species in which the antennæ are unicolorous; and the late Dr. Schaum (loc. cit.) has remarked, that *B. glabratus*, Dej. (*strepitans*, Fairm. et Lab.) is allied to this variety, having its antennæ unspotted, and the striæ of its elytra somewhat more distinctly impressed. Subsequently, in his catalogues, the same author (whose untimely decease is so much to be regretted) considered *glabratus* as a variety of *explodens;* and this view is somewhat strengthened, as far as our first introduction to either form goes, by the fact of another of the specimens taken by Mr. Murton, and sent to me for examination by Mr. Edleston (who received it from Mr. Sidebotham), being

decidedly *B. glabratus*,—having unspotted antennæ, and more roughened elytra than in Dr. Power's insect, and otherwise presenting considerable points of difference.

Another of Mr. Murton's specimens, sent to me by Mr. Sidebotham, differs widely from both of the above-mentioned examples (though supposed to have been taken in their company), being larger than either of them; with unspotted antennæ, and, as compared with *explodens*, more elongate front to the head, and longer elytra,—which are, moreover, not nearly so smooth, and have more prominent shoulders, with a lurid red stain below the scutellum. This insect exhibits a superficial resemblance to *B. sclopeta*, for the reason last above mentioned; and, indeed, is the specimen on which were founded the rumours (mentioned in the last "Annual") of that species being taken: it differs, however, from *B. sclopeta* in being much larger, with more elongate, less convex, and rather duller elytra; and in having the underside, &c., of the same colour as the same parts in *crepitans*, instead of the bright clear red so peculiar to the former species. The stain on the elytra, also, appears to be accidental; as it is not equilateral, nor sufficiently continuous with the scutellum, which is rather dark. It is very curious that these three specimens should be *all* different. I believe no more have been taken since their capture; but it is to be hoped that the district in which such puzzles occur will be well worked.

3. Stenolophus derelictus, Daws., Wat. Cat.; E. C. Rye, Ent. Monthly Mag. vol. ii. p. 63.

Mr. J. F. Dawson has sent me his unique example of this insect; which, apart from its extremely dark colour, differs from any *S. dorsalis* that I have seen (although I possess one of the Wimbledon varieties of that species,

identical with the ordinary metropolitan exponents of *derelictus*, one of which was sent to Dr. Schaum as that species) in being larger and wider, with its thorax broader, not straightly narrowed behind, but somewhat rounded, and *with the basal foveæ quite unpunctured:* in fact, it much more resembles a small specimen of *S. elegans* than anything else,—being, however, quite distinct from that species.

Mr. Wollaston, to whom I have recently shown Mr. Dawson's insect, can come to no other determination than that it is not specifically identical with *dorsalis;* he pointed out, moreover, a character in *derelictus* which has hitherto been unnoticed, viz., the proportionate superior length of its tarsi, especially of the claw joints.

Mr. Dawson informs me that he never saw the insect sent to Dr. Schaum as *derelictus;* and that the sender never saw his (Mr. Dawson's) unique type of that species.

4. Bembidium quadrisignatum, Dufts., Faun. Austr. ii. 205, 16 (*Elaphrus quadrisignatus*); Schaum, Er. Ins. Deutschl. i. 748, 4; J. du Val, Ann. de la Soc. Ent. de Fr. 1852, 197; E. C. Rye, Ent. Monthly Mag. vol. ii. p. 155.

This species, a single specimen of which was taken by Mr. T. J. Bold near Newcastle, is, in its normal condition, decidedly larger than *B. bistriatum* (being in the same section of the genus, viz. *Tachys*), flattish, oblong, shining, more or less pitchy-black, with two rounded spots on each elytron (below the shoulder and before the apex), the base of antennæ, and the legs, testaceous;—the tibiæ being sometimes pitchy in the middle. It has two longitudinal grooves in front between the eyes; the thorax broader than long, sub-quadrate, slightly narrowed behind, with acute hinder angles, and a well-defined basal fovea on each side, extend-

ing along the hinder margin. The elytra are wider than the thorax, with three deeply impressed and punctured striæ next the suture, rather faint at base, and still more so at the apex, except the first, which is carried round the apex and returned almost parallel to the suture, the recurved part being slightly rounded outwards, and ending in a puncture near the fourth stria, which is not so deeply impressed as the three first. The other striæ are obsolete, except the 8th, or marginal one, which is distinct below the shoulder, with strong scattered punctures, and deeply impressed behind. From J. du Val's notice (loc. cit.) it appears that this species is very variable, both in size and colour, which is sometimes brownish, or even lighter still; and it is to one of these small and lighter-coloured forms that Mr. Bold's insect belongs.

It could only be confounded with a light variety of *B. bistriatum;* from which its deeply impressed and punctulated striæ, more acute hinder angles to thorax, and more shining appearance, will distinguish it.

5. Eunectes sticticus, Linn.; Kust., xxviii. 5; G. R. Crotch, Cat. Brit. Col.; id., "The Entomologist," vol. i. p. 210, 147.

Mr. Crotch states that he introduced this species into his Catalogue on the authority of a specimen in Mr. Wollaston's collection, purchased with other insects from a collection formed in North Devon, probably by Dr. Cocks of Barnstaple, and having every appearance of being genuine, being pinned with an ordinary pin; also, that the known distribution of the insect is such as to render its occurrence here very probable, and that it could not be confounded with any other species, but most resembles a very pale *Acilius*.

6. Hyphydrus variegatus, Aubé, Spec. Gén. des Hydroc. 466, 11; Fairm., Faune Ent. Franc. ii. 196, 2; E. Brown, Ent. Monthly Mag. vol. i. p. 185.

Mr. Brown of Burton-on-Trent records the fact of his possessing a specimen of this insect, taken some years ago by a young man of the name of Hay, who resided at Bury, near Manchester. It is believed, though not known for certain, that he took it in Delamere Forest, where there are natural lakes; and Mr. Brown states his conviction that it was taken either in Lancashire or Cheshire.

Through that gentleman's courtesy I have been enabled to examine this specimen (which has been pinned twice, originally, and through the left elytron, with a large pin; subsequently, by Mr. Brown himself, with a fine pin, through the right elytron), which is rather larger than the usual size of *H. ovatus*, and more rounded; its head is black, with a broad triangular ferruginous space in front; thorax ferruginous, with two black spots at the middle of the hinder margin, confluent near the scutellum; and elytra yellowish-ferruginous, with the base near the scutellum, a small humeral spot, and two or three broad and exceedingly irregular bands, black.

Its true geographical range would appear, from the localities given by Aubé, Fairmaire, and Redtenbacher, to be the meridional parts of Europe.

7. Borboropora Kraatzii, Fuss; Berlin. Ent. Zeit. vi. (1862), 406; J. A. Power, Ent. Monthly Mag. vol. i. p. 222 (*Borboropora Saulcyi*, Kraatz).

Dr. Power records the addition to our Fauna of the above most interesting genus and species; of which he took one exponent by sweeping at Mickleham, on the 13th July, 1862. This specimen it appears was taken by Mr. Crotch

to Paris, where Dr. Aubé at once recognized it; but I am at a loss to understand how it came back with the wrong name, and purporting to be described by the wrong author. I find, also, in Dr. Kraatz's account of the genus no mention of Dr. Aubé's "original specimen at first referred to *Falagria* by Dr. Kraatz himself"; no reference whatever being made to Dr. Aubé, and the only specimens recorded (and from which the genus was described) being the six taken by Herr Fuss in June and July 1862, as mentioned by Dr. Power.

From Dr. Kraatz's description of the genus (loc. cit., pp. 404—405) it appears to be related to *Falagria;* and to be chiefly distinguished by its very slender and produced mandibles, of which the right-hand one has on the inner side below the middle a very large strong tooth, on the lower side of which is another and much smaller tooth. The left-hand mandible is attenuate, strongly curved below the middle, and with no tooth. The labrum is transverse, slightly emarginate on each side near the anterior angles. The maxillary palpi have the apical joint small, but not so attenuate as in *Falagria.* The joints of the labial palpi are individually distinctly approximated; and the apical joint is scarcely half so broad as the first, and a little narrowed at the point, instead of slightly thickened as in *Falagria.* The left mandible, labial palpus and clypeus are figured in the Berl. Ent. Zeit., *loc. cit.*, T. iii. 15.

The description of the species quoted in Dr. Power's note requires some slight additions and alterations:—the insect is sub-depressed, instead of depressed; the elytra and legs are not piceous, but "fusco-brunneis;" the head is excavated behind; the thorax is *widely*, not *deeply* foveolate; and the abdomen is not "very finely," but "above all thickly and finely" punctured. The length appears to be $1\frac{1}{4}$ line, not $1\frac{1}{2}$ lin.

8. EURYUSA KIRBYI, Janson, Ent. Annual, 1858, 64, 10, Fig. 8.

Dr. Power (Ent. 323, 265) records the capture by himself at Birdbrook, in Essex, during last August, of this insect, under the names "*Thiasophila inquilina* or *Euryusa Kirbyi*, whichever it is to be." This expression will in all probability sufficiently puzzle many provincial Entomologists, but is very easily explained. It has long been the opinion of most metropolitan Coleopterists, judging both from the figure and description of Mr. Janson's species, that it was the same as the insect known to us as *Thiasophila inquilina*;—the resemblance between the two insects being, indeed, if I mistake not, first pointed out by Dr. Power himself, who was the original captor of the latter;—and this opinion has been confirmed on a most careful examination by that gentleman and Mr. Crotch of the "*Euryusa Kirbyi*," which has lately passed into Mr. Crotch's collection.

Mr. Crotch intends, I believe, to fully investigate both the generic and specific value of our *T. inquilina*.

It is somewhat curious that this should happen to have been the species immediately preceding *Euryusa Kirbyi* in the Ent. Ann. for 1858; and Mr. Janson's expression, as to the desirability of a very careful examination being bestowed upon the specimens on which it was introduced by Dr. Power, seems to have been almost prophetic.

9. MYRMEDONIA PLICATA, Er. Col. March. i. 289, 5; id. Gen. et Spec. Staph. 36, 2; Redt. Faun. Austr. 817; Kraatz, Ins. Deutschl. ii. 128, 12; E. W. Janson, Proc. Ent. Soc. 6 Nov. 1865, Ent. Monthly Mag. vol. ii. p. 169.

Several specimens of this most interesting insect were taken by Mr. F. Smith and his son, Mr. E. Smith, in 1866.

the nests of a small ant (*Tapinoma erratica*), in a sandy place at Bournemouth, during the last summer.

The capture of this species in England will probably save the lives of many a *Myrmedonia canaliculata*, next to which common insect, and as if allied to it, it is placed by Erichson and Kraatz. I must confess that I have often bottled that pre-eminently Brachelytrous little beast in the hope of being able to detect in this country the insect which I supposed to bear a cognate form to it. No two species, however, could well be more unlike, and yet remain in the same genus; indeed, it seems to me that a further separation is more required in *Myrmedonia* than in many other split genera, for to consider the huge Gyrophænöid *Hawortlii* as own brother to *canaliculata* argues the most perfect disregard for external characters, which cannot always be despised.

The present insect has somewhat the facies of a very large *Ocalea rivularis*, with the attennæ of *Callicerus rigidicornis;* or it may be better likened to an enlarged edition of *Homalota angustula*, with increased antennæ. It is larger, broader, flatter, and more parallel than *M. canaliculata;* rufo-testaceous, with the head, thorax and most of the abdomen pitchy, the base of the segments of the latter being very deeply transversely channelled, and the (apparent) fourth segment having in the middle of its upper surface a wide, flat, sharply defined, and somewhat triangular elevation, broadest behind, occupying nearly all the depth of the segment, and caused by two furrows diverging from the centre of the base, which exhibits a shallow semicircular emargination. The entire hinder margin of the same segment is also slightly emarginate.

According to Dr. Kraatz *M. rigida* has a similar abdominal formation; and the *M. tuberiventris* and *physogastra*

of Fairmaire (Sicily and Algiers) most probably, from their names, exhibit some stomachic derangement.

10. Oxypoda glabriventris, E. C. Rye, Ent. Monthly Mag. vol. i. p. 212 (described).

Several specimens (accompanied by *Homœusa acuminata*) of this apparently new species were taken in May and June, 1863, by Dr. J. A. Power, in the "runs" leading from a nest of *Formica fuliginosa*, at the root of an old beech-tree in Headley Lane, Mickleham.

It is closely allied to *O. lucens*, Muls., differing from that species in being entirely ferruginous-testaceous, rather larger, more robust and more shining; with its thorax widest a little above the middle and much more contracted and rounded off behind, its punctuation not so close, and pubescence rather stouter and longer; its antennæ stouter, with the apical joint longer, and its abdomen shining, very slightly and remotely punctured,—in which latter respect it differs from any *Oxypoda* known to me.

In general appearance it somewhat resembles *Ischnoglossa corticalis*, but with the antennæ of *Ilyobates forticornis*. It has not been taken again, in spite of the most determined efforts of many collectors; and I am informed that a specimen sent to Paris was returned as belonging to a species unknown to French Entomologists.

11. Tachyporus ruficollis, Grav. Wat. Cat.; D. Sharp, Ent. Monthly Mag. vol. ii. p. 157.

Mr. Sharp states his opinion (in which, as far as my own observation has gone, I decidedly concur) that this species

should be erased from our lists; inasmuch as all its exponents in collections in nowise agree with its published descriptions, but are the *T. nitidicollis* of Stephens. There appears to be some confusion about the latter insect; as Mr. Wollaston (Zool. 1855) states that specimens of it, taken by himself in Ireland, and sent to Drs. Schaum and Kraatz, were returned as belonging to a species unknown to them; and it is ranked as distinct under the name of *nitidicollis*, Steph., in the last edition of De Marseul's Catalogue of the Coleoptera of France. On the other hand, Mr. Sharp states that Mr. G. R. Crotch told him he had recently submittted a specimen of it to M. Ch. Brisout de Barneville, who informed him that it was very close to, if distinct from, *T. ruficollis*.

Mr. Sharp is also of opinion that this insect is merely a variety of *T. obtusus*, differing in no respect from that insect except in colour, the black bands at the base of the elytra and apex of the abdomen being extended over a greater area than usual; and he states that, even in this respect, intermediate grades occur in Scotland.

Specimens in my own collection, taken by Mr. Morris Young, are decidedly only varieties of *T. obtusus*.

T. ruficollis, from Erichson's description, appears to be of the size of a large specimen of *T. humerosus* (to which he likens it); and in every way a distinct species by its short, convex build, large head, short and slender antennæ, which are entirely testaceous, and long thorax, which is but very little narrowed in front.

Dr. Kraatz (Ins. Deutschl. ii. 424, 8) places it next to *humerosus*, simply remarking that it is somewhat shorter and more convex than *obtusus*.

The *T. ruficollis* of Gyll. appears to be *T. transversalis*.

12. LITHOCARIS MARITIMA, Aubé, in Grenier's Cat.* des Cols. de Fr. et Matériaux, &c. 36, 46; G. R. Crotch, Proc. Ent. Soc., 6 Nov. 1865, Ent. Monthly Mag. vol. ii. p. 169.

This appears to be the insect generally known in British collections as *L. castanea*, taken by Mr. G. Guyon (to whom I am indebted for specimens) and others, in the shingle near Ventnor, Isle of Wight.

It resembles that species superficially, but is considerably smaller, with its head more orbiculate, and antennæ and legs shorter. Its thorax, also, is rather shorter (or, rather, its elytra are longer), and has a distinct—but narrow—shining, longitudinal line.

The true *L. castanea*,—originally taken in England (New Forest) by Mr. Rudd, named *Medon Ruddii* by J. F. Stephens, and identified by Erichson himself, under that name, with his own prior described insect,—has long been in my own collection (though I did not until last month possess *maritima*); Mr. Keeley having some years ago given me a specimen taken by himself in a lane near Wimbledon Common. It is about the size of *Achenium humile*. Mr. Crotch also possesses a specimen; taken, I believe, by Charles Turner in the New Forest.

13. BLEDIUS FUSCIPES, Rye, Ent. Monthly Mag. vol. ii. p. 154 (*described*).

About the same size as *B. opacus* and *subterraneus*;—

* Grenier's Catalogue, containing at the end descriptions of upwards of 100 new species of Coleoptera, many of which are likely to occur here, should be in the hands of all British Coleopterists.

It can be readily obtained for 4*s.* 6*d.* from Messrs. Williams and Norgate, of Henrietta Street.

black, shining, with brown (sometimes brownish-testaceous) legs; pitchy-black antennæ, of which the basal joint is testaceous, and the second sometimes slightly so, especially at the base; coriaceous opaque thorax, which is obsoletely and not closely punctured, with a delicate but distinct and shining middle line, and slightly prominent hinder angles, which are rather obtuse; elytra only half as long again as the thorax, very closely and rather strongly punctured.

The chief character of the species appears to be in its antennæ; which are rather short, and distinctly and somewhat abruptly incrassate towards the apex.

The only British species with which it could be confounded is *B. subterraneus*, from which its much shorter elytra, more strongly clubbed antennæ, and the less prominent hinder angles of its thorax, will serve to distinguish it.

A considerable number of specimens were taken by Mr. D. Sharp and myself in a damp sandy place on the shores of the Frith of Forth, at Aberlady, in June last. It was accompanied by *B. arenarius*, and was most readily obtained by raking up the sand, as it seemed to be burrowing beneath the surface.

14. Olophrum fuscum, Grav. Mon. 211, 16 (*Omalium*); Er. Gen. et Spec. Staph. 865, 3; Kraatz, Ins. Deutschl. ii. 940, 2; D. Sharp, Ent. Monthly Mag. vol. ii. p. 13.

Several specimens of this insect were found by Mr. Sharp on the borders of a pond close to Edinburgh.

Compared with *O. piceum*, they are smaller, and considerably narrower, darker in colour, and much flatter; the basal joint of the antennæ is lighter in colour than the others; the thorax is not so transverse, and is less rounded at the sides, especially behind, with the punctures smaller

and more numerous, and the elytra gradually getting broader from shoulder to apex in a more marked degree.

15. OMALIUM LAPPONICUM, Zett. 50.
pineti, Thomson, Ofv. 1856; id. Skand. Col. iii. 209, 2 (*Phloeostiba*); D. Sharp, Ent. Monthly Mag. vol. ii. p. 157.
conforme, Kraatz, Ins. Deutschl. ii. 987, 14.

Mr. Sharp records the capture by himself of one example of this species, under the bark of a fir stump at Rannoch, in June last. The insect is certainly rare; for a diligent search, by both Mr. Sharp and myself, produced no more specimens.

O. Lapponicum is allied to *O. planum;* differing in being smaller, especially narrower, with fuscous elytra, of which the punctuation is finer and more sparing, and having no impressions on the anterior margin of the thorax.

16. NECROPHORUS MICROCEPHALUS, Thomson, Skand. Col. iv. 9; J. A. Power, "The Entomologist," vol. i. p. 199.

Dr. Power has assuredly done (and in the most exhaustive and clear manner) all that could be done in attempting to confirm the specific distinctness of this insect from *N. ruspator*, Er.; I think, however, from his final remarks (loc. cit.), there can be no doubt he partially shares my own conviction that it is only a minor form of that species.

The differences between the types of each form appear to consist,—as to both sexes,—in the larger size of *N. ruspator*, and its consequently larger head; and,—as to the males,—in the prolongation of the posterior trochanters into a large reflexed hook, and the larger, deeper, quadrangular, orange-coloured emargination of the clypeus in that species.

But it must be observed that the hooked hinder trochanters, and excess of clypeal emargination, are purely sexual characters; the female of *ruspator* having the trochanters terminating in short spines, and the emargination of the clypeus small, triangular, with the apex rounded, and only extending about half-way up. Thus it is to be expected, by analogy with other known instances of sexual dimorphism, that a small undeveloped male of *ruspator* would exhibit all these points of degradation, and assume the female form; and it is precisely such an insect that I believe the *microcephalus* of Thomson to be. If I needed any evidence, beyond that of analogy, to confirm this idea, it would be afforded by the fact that I captured at Rannoch, in June last, males of undoubted *ruspator* in company with a male intermediate between their full development and the degraded form of Thomson's *microcephalus*.

With regard to the females of *microcephalus*, I believe that they are simply small females of *ruspator;* in which the diminished size is accompanied by a corresponding diminished condition of the marks of sexual difference, which are certainly liable to variation in other insects.

The following are a few instances in which a modification of the differential characters of the male occurs, so that small specimens of that sex often resemble the female:—*Necrodes littoralis* (inflation of hinder femora); most of the genus *Anisotoma*, and especially *cinammomea* (development and toothing of hinder femora, curvature of hinder tibiæ, &c.), wherein there are nearly always three distinct forms; *Colon* (length of curved spine to hinder femora); *Agathidium* (development of left mandible, and of the horn often existing on it); *Liodes* (spining of posterior tibiæ, and dilatation of front tarsi); *Creophilus* and *Lucanus* (development of head and mandibles); many *Philonthi* (development of head and

dilatation of front tarsi); *Onthophagus* and *Aphodius* (development of horns or tubercles on clypeus), in the former of which there are nearly always three forms; *Prognatha* (horns on the head); *Bledius*, *Copris*, *Sinodendron*, &c. (horns, &c., on the head and thorax); *Typhæus* (horns on the thorax); *Osphya* (general development and colour, and especially the normally enormous inflation of hinder femora in the male, which are sometimes entirely simple in small individuals of that sex, as in the females), &c. I possess, also, a male of *Stenus lustrator*, wherein the usual curls of hair on the underside of the abdomen in that sex are wanting; and a female of *Harpalus caspius* with the polished surface of the male. *Dytiscus marginalis* and *circumflexus* are notorious on account of their females sometimes assuming the male form; and many *Hydropori* and a few *Agabi* also vary in a like way.

It may be remarked that many false species (and even genera) have been described from these or similar instances of abnormal sexual disparities.

17. NECROPHORUS GALLICUS, J. du Val. Glan. ii. 139; J. A. Power, "The Entomologist," vol. i. p. 199.

From Dr. Power's remarks, it appears that this insect is related to *N. interruptus* (*fossor*, Er.) in much the same way that *N. microcephalus* is to *N. ruspator;* except that the differences in size and the sexual development of clypeus and hinder trochanters are inverted;—*gallicus* being the major form. The observations, therefore, made concerning the last above-noticed insect will apply, *mutatis mutandis*, to the present.

Dr. Power appears to have less faith in this as a species, than in *microcephalus*.

18. Choleva angustata, Fab.; G. R. Crotch, "The Entomologist," vol. i. p. 322, 264.

Mr. Crotch, following M. Brisout de Barneville (Gren. Cat. Col. Fr. 8) proposes to adopt again, as separate species, the different forms of this insect, first separated by Dr. Kraatz on the shape of the coxæ in the male, and afterwards reunited by Murray. Mr. Crotch remarks that characters drawn from these parts are confessedly inconsistent; but being, as they are in this case, accompanied by other slight but fixed differences, we cannot, he thinks, refuse to admit these forms as species, though of a subordinate degree of value to other species, or, as they have been termed in botany, cognate species. I imagine that such gradations will not be accepted so readily by Entomologists as by Botanists; for the vegetable kingdom requires more subtle shades of separation, on account of the liability of its species to run into apparently permanent varieties, through different systems of culture, accidents of soil, &c.

Mr. Crotch admits that the general appearance is considerably alike in the four species or forms of the insect now being noticed; but states that the male characters readily separate them, and extracts from M. Brisout's notice the following diagnoses:—

1. *C. Sturmii*, Brisout. Abdomen with segments 2—4 marked with a slight impression; posterior coxæ short, simple; femora with a small tooth before the middle. One specimen, from Mr. Janson's collection, taken near London.

2. *C. angustata*, Fab., Bris. Abdomen with segments 3—5 deeply impressed; coxæ short, pointed, inner margin produced. *Fem.* Elytra terminated with a short spine.

3. *C. cisteloides*, Fröhl., Kr. Abdomen with segments

2—5 lightly impressed; coxæ short, like the preceding, but produced into a curved spine on the inner margin. *Fem.* Elytra simple.

4. *C. intermedius*, Kr., Bris. Abdomen with segments 4—5 lightly impressed; coxæ long, gouge-shaped. *Fem.* Elytra simple. One specimen, from Mr. Janson's collection, taken at Finchley.

The males, as Mr. Crotch remarks, may be always known by the dilated anterior tarsi and curved intermediate tibiæ.

19. Choleva longula, Kellner, Stett. Ent. Zeits. vii. 176, 1 (*Catops longulus*); E. C. Rye, Ent. Monthly Mag. vol. i. p. 257.

I see in the last edition of de Marseul's Catalogue that the *Catops longulus* of Murray (*tristis*, var. B, Mon. of Gen. *Catops*, 38) is synonymous with *pilicornis*, Thomson, Skand. Col. iv. 61, and distinct from the present species; a conclusion in accordance with my own suspicions. The *C. longula* of Mr. Crotch's Catalogue, being founded (as that gentleman informs me) on Murray's insect, will, therefore, now stand as *pilicornis*, Thoms.; and the above species, first recorded by me, will immediately precede it in our list.

It is allied to *C. morio*, *nigrita*, *coracina*, and *tristis*; from which, besides its much more elongate form, the following characters will distinguish it.

Compared with *morio* the club joints of the antennæ are longer, the 7th being in every way larger, and the apical half only of the 11th testaceous; its elytra are more evidently punctured, and more gradually contracted behind; and its legs (and especially the apical joints of its tarsi) are longer.

It may be known from *C. nigrita* by its thorax being broadest a little before the middle, with the posterior angles less straight; from *C. coracina* by its uniformly stouter

antennæ, and the hinder angles of its thorax not being prominent, or even slightly recurved, as in that species; and from *C. tristis* by the obsolete club of its antennæ, in which all the joints are much narrower, the eighth being stouter, and the apical more elongate: the club in *C. tristis* being abrupt, with the 8th joint small, shallow, and very transverse, and the apical joint short.

Without detailing other characters it may suffice to say that the oblong-oval elytra, at least four times the length of the thorax, will distinguish this species from all its British congeners.

I detected a single example among some *Cholevæ* taken near Newcastle by my friend, Mr. T. J. Bold; who subsequently found another specimen, which (with his usual liberality) he gave to me.

20. Scaphisoma assimilis, (Schüpp.) Er. Ins. Deutschl. iii. 10, 3; Thoms. Skand. Col. iv. 127, 2; E. C. Rye, Ent. Monthly Mag. vol. ii. p. 139.

I took a single example, of what I suppose to be this species, at Coombe Wood, in the autumn of last year.

It resembles *S. agaricina* in size and shape, but differs in having its elytra more thickly punctured and pitchy black, with the apical half and lateral margins reddish-brown; the antennæ, also, have the seventh, ninth, tenth, and eleventh joints equal, and narrower, and more attenuate than in that species, the eighth being scarcely shorter, and but a little thinner, than any of these joints.

From *S. boleti* it should be known by its narrower build, longer thorax, darker colour, and much more thickly punctured elytra, which have the sutural striæ more distinct, and the suture itself broadly keeled; also by the seventh joint of its antennæ not being wider than the rest.

My insect exhibits all these characters, except the narrowness as compared with *boleti;* but I think it can hardly fail to be the true *assimilis.*

21. ANISOTOMA TRIEPKII, Schmidt, Germ. Zeits. f. d. Ent. iii. 153, 5; Er. Ins. Deutschl. iii. 55, 3; G. R. Crotch, Cat. Brit. Col.; E. C. Rye, Ent. Monthly Mag. vol. i. p. 258.

I have detected an example of this species, originally introduced by Mr. Crotch in his "Catalogue," among some *Anisotomidæ* taken by Mr. Hislop, near Falkirk.

It is allied to *A. brunnea*, Wat. Cat.; entirely ferruginous, with concolorous antennæ, which are short, with the apical joint narrower than the preceding, the two penultimate joints being very transverse, and narrower than usual: the thorax has the base sinuate on each side near the hinder angles; the elytra have the interstices delicately punctured, the alternate ones, however, having large scattered impressions. In the fully developed male the hinder femora are widened in the middle, with the lower side of the apical end rounded, and the hinder tibiæ strongly curved.

This specimen agrees with Erichson's description, and with a type sent by Dr. Kraatz; also with Mr. Crotch's original example.

22. ANISOTOMA SILESIACA, Crotch, Cat. Brit. Col.; E. C. Rye, Ent. Monthly Mag. vol. i. p. 259.

Mr. Crotch has kindly allowed me to examine the specimen, on the authority of which he introduced this species into his catalogue, and which he informs me was so named by M. Schiödte. The insect in question is only *A. ovalis*, and differs in every way from the true *A. silesiaca*, which is

a large, oblong, convex species, with coarsely punctured thorax, and strongly spined anterior tibiæ.

23. Anisotoma litura, Steph.; E. C. Rye, Ent. Monthly Mag. vol. i. pp. 167, 237.
ornata, Fairm. Ann. Soc. Ent. Fr. 3me série, vol. iii. 1855, Bull. 30.

My remarks in the last "Annual" (p. 65), as to the probable identity of these two species, have been confirmed through the kindness of Mr. G. R. Crotch; who has been good enough to bring me one of M. de Barneville's types of Fairmaire's *ornata*, which is identical with the pallid southern form of Stephens' *litura*. Stephens' description is not an elaborate one, but unmistakeable; there being no other *Anisotoma* coloured according to his diagnosis.

I continue to find this insect sparingly at Mickleham, by sweeping among dead leaves. My friend Mr. Sharp suggests that it is not improbably attracted by certain stercoraceous deposits; which, I must admit, are not rare in the retired corner where I usually find this species.

24. Agathidium Rhinoceros (Front. fig. 8), Sharp, Proc. Ent. Soc. 6 Nov. 1865; Ent. M. Mag. vol. ii. p. 169.

A colony of this undescribed species was taken by Messrs. Sharp and Bishop, under the bark of an old fir-stump at Rannoch in the autumn of 1864: no other specimens were found, beyond the original "batch;" and neither Mr. Sharp nor I could in the following spring obtain a single specimen, under similar or any other conditions, although *nigrinum* and *rotundatum* were comparatively abundant.

A. rhinoceros somewhat resembles *nigrinum*, but is more acuminate behind, more distinctly punctured, with a more deeply impressed sutural stria, shorter and stouter antennæ,

the apical joints of which are more transverse, and with the left mandible in the male exceedingly developed, being sometimes increased in length and curved, and sometimes bearing a short tooth on its upper surface, which, in a few examples, assumes the form of a very long, sharp, elevated, recurved horn, reaching far above the head.

25. AGATHIDIUM CLYPEATUM, Sharp, Proc. Ent. Soc. 6 Nov. 1865; Ent. Monthly Mag. vol. ii. p. 169.
mandibulare, Wat. Cat., *nec* Sturm.

Described by Mr. Sharp from a male in Dr. Power's collection, three specimens belonging to Mr. Bold, and a pair in the British Museum (under the name *varians*, obtained from Mr. E. W. Janson,—who, I believe, took them in a fungus in Headley Lane). It is immediately to be distinguished from all its allies by the shallow, semicircular emargination of its clypeus.

In Dr. Power's male the left mandible is exceedingly developed.

26. AGATHIDIUM CONVEXUM, Sharp, Proc. Ent. Soc. 6 Nov. 1865; Ent. Monthly Mag. vol. ii. p. 169.
piceum, Crotch, Cat., *nec* Erichs.

Allied to *A. marginatum*, Sturm; but differing from that species in the possession of an abbreviated sutural stria (commencing, as usual in this genus, at the apex of the elytra), and in the generally darker club of its antennæ.

It appears to be not uncommon in the London district, and elsewhere.

27. HISTER SUCCICOLA, Thomson, Skand. Col. iv. 224; G. R. Crotch, "The Entomologist," vol. i. 308, 4.

Mr. Crotch records specimens from Weston-super-Mare

and Lincolnshire (T. V. Wollaston), which agree with Thomson's description of this insect, and also with a type sent by that author. I am indebted to Mr. Crotch for one of his specimens; and have also taken the species at Rannoch, and in the London district. It has been long separated in Mr. Waterhouse's collection from *H. cadaverinus*, which, from Thomson's description, it closely resembles; being, however, smaller, with the marginal impressions on the forehead somewhat arched and pointing backwards at their point of junction in front, instead of being simply rounded; the chin-piece (*mentonnière*) of the prosternum acuminate, instead of being blunt or slightly notched at the apex; the mesosternum with a slight triangular notch between the middle legs; and the pygidium more densely punctured.

28. Hister 14-striatus, Payk. Faun. Suec. 1, 39, 6; Gyll. Ins. Suec. i. 83, 11; Thoms. Skand. Col. iv. 230, 4; G. R. Crotch, "The Entomologist," vol. i. p. 311, 16.

Mr. Crotch notes the characters of this insect, which he states to be widely distributed, but not to occur in company with *H.* 12-*striatus*, which it closely resembles; differing in having a very abbreviated trace of a sub-humeral stria, the pygidium and pro-pygidium more evidently punctulated, especially on the sides, and the thorax with a few impressed punctures near the anterior angles.

Mr. Crotch expresses his agreement with de Marseul's doubts as to the validity of this species, having seen twenty or thirty examples, affording nearly all shades of connection; the punctuation of the pygidium appearing to vary insensibly from one to the other, and the additional stria being represented, in half of his specimens, by a row of punctures only.

In a specimen from Cambridge given to me by Mr. Crotch, there is not the least vestige of the additional thoracic punctures, and the sub-humeral stria is reduced to three impressions; the insect being certainly not capable of separation from *H.* 12-*striatus*.

29. EPURÆA DIFFUSA, Ch. Brisout, in Gren. Cat. Col. Fr. Mat. 46; D. Sharp, Ent. Monthly Mag. vol. ii. 85.
fuscicollis (Waterh.) Steph.

Mr. Sharp records this species as British on the authority of two specimens; one taken by himself at the oozing sap of a recently felled oak, and another obtained from Mr. Brewer. It is also in the collection of Mr. Waterhouse, who noted its peculiarities many years ago; and is described (badly) in Stephens' Manual. Since the publication of Mr. Sharp's notice I believe many specimens have been detected.

It is considerably like *E.* 10-*guttata*, but only half the size; the spots on the elytra not being nearly so well marked as in that species, and sometimes so confluent as to leave the elytra pale testaceous, with one or two ill defined darker patches of the normal ground-colour. In the male the basal joints of the tarsi are dilated; and the posterior femora, though stouter than the others, are simple, as are also the hinder tibiæ.

In Mr. Waterhouse's original specimen the elytra are entirely pale, and the thorax is dark.

30. EPURÆA ANGUSTULA, Erichs., in Germ. Zeits. f. d. Ent. iv. 270, 16; id. Ins. Deutschl. iii. 150, 13; Sturm, Deutsch. Ins. xv. 74, 13, T. 296, f. c. C.; E. C. Rye and D. Sharp, Ent. Monthly Mag. vol. ii. p. 50.

A single example of this species was taken by Mr. Sharp

under fir-bark at Dall on the shores of Loch Rannoch in my company. It must be very rare; as the most determined labour of both of us did not produce another specimen during all our stay.

Its linear parallel form, dark colour, and posteriorly almost right-angled thorax—added to the simple middle tibiæ of its male—readily distinguish it from its allies.

31. Carpophilus sexpustulatus, Fab. Ent. Syst. i. 260, 1 (*Nitidula*); Er. Ins. Deutschl. iii. 137, 4; E. C. Rye, Ent. Monthly Mag. vol. i. p. 259.

I have found an old example of this species among some of Mr. Edleston's *Coleoptera* sent to me for examination. It was formerly in the British Collection of the Entomological Society, and had the name "Kirby" attached to it, printed on a pink label. The species is found in Germany under bark, and may possibly be truly British.

It has somewhat the appearance of *Nitidula flexuosa* or *4-pustulata*, from both of which, apart from generic differences, it may be known by its thorax being more distinctly punctured, and contracted behind.

From *C. hemipterus* it differs in having six spots on its considerably longer elytra.

32. Monotoma rufa, Redt. Faun. Austr. 377, 3; G. R. Crotch, Cat. Brit. Col.; id. "The Entomologist," vol. ii. 179, 117.

subquadrifoveolata, Wat. Cat.

Mr. Crotch informs us on M. Aubé's authority that the rufo-testaceous insect, with four indistinct thoracic foveæ, found abundantly at the bottoms of hay-ricks near London, originally named *quadrifoveolata*, and subsequently (pro-

visionally) *subquadrifoveolata*, by Mr. Waterhouse, must be referred to this species.

Oddly enough, Herr W. Redtenbacher also appears (Dissert. quæd. Gen. et Spec. Col. Austr. p. 23) to have described this insect under the name *quadrifoveolatum*.

33. Monotoma quadrifoveolata, Aubé, Ann. Soc. Ent. de Fr. vi. 468, 9, pl. 17, fig. 8; Redt.; G. R. Crotch, "The Entomologist," ii. 179, 117; id. Proc. Ent. Soc. 6 Nov. 1865; Ent. Monthly Mag. vol. ii. p. 169.

Mr. Crotch records the capture of this species by Mr. E. W. Janson at Hainault Forest; and has exhibited specimens at the Entomological Society.

It bears considerable resemblance to the foregoing species, but has the four foveæ on the thorax much more distinct, the thorax nearly quadrate instead of elongate, and with the margins very plainly thickened. The elytra also are less pubescent than in *M. rufa*.

34. Cerylon oryzæ, Steph. Coll.; E. C. Rye, Ent. Monthly Mag. vol. i. p. 245 (*note*).

In examining the exponents of *Cerylon obsoletum* in the Stephensian Cabinet with a view of determining their identity with *Anommatus* 12-*striatus* (to which Stephens' description of his species appears to refer), I found that the first insect, with ticket attached, was identical with the specimens representing *C. oryzæ*, the species next following it (the remainder consisting of one true *Cerylon*, and two of the *Anommatus*).

This species has somewhat the facies of *Aglenus brunneus;* but its legs are much stouter, and its antennæ more strongly and abruptly clavate. There can be no doubt that

it is imported, though Mr. Waterhouse has taken live specimens in the garden attached to the British Museum. Being unable to refer the insect to any genus with which I am acquainted, and finding no reference to it in Stephens' Manual, I sent one of the last-mentioned specimens to Mr. T. V. Wollaston for examination, and have received the following communication from him on the subject:—

"Although I have not had time to dissect your insect, I feel sure that it is a member of the *Thorictidæ*, of which it will probably form a new genus. Its largely developed prothorax, short mesosternum, almost obsolete scutellum, apterous, unpubescent body, and thick abbreviated limbs, are quite in accordance with *Thorictus;* and, like the *Thoricti*, I suspect that it is also blind; though, at first sight, the prominent and darkened edges of its clypeus might be almost mistaken for eyes. Its antennæ likewise—with their *extremely* solid tri-articulated club, the last joint of which is obliquely truncated and pilose—are quite of the *Thorictus*-type; and so are its short sub-conical feet. I am satisfied that the latter are 5-jointed throughout; for, although (as in *Thorictus*) the basal joint of the *anterior* pair is difficult to detect, yet this is merely the consequence of its being much reduced in length, and immersed in the apex of the tibia. Moreover, it has a faint tendency to possess the humeral (or sub-humeral) plica, which is so characteristic of the *Thoricti;* and, altogether, therefore, until its oral organs have been critically examined, I should be inclined to regard it even as a true *Thorictus*, though I believe it will constitute the type of an allied genus. Of course its 11-jointed antennæ and pentamerous tarsi will, apart from all other characters, at once remove it from the various forms of the *Colydiadæ*."

The family of the *Thorictidæ*, placed between the *Mycetophagidæ* and *Dermestidæ*, appears to contain two genera; one, *Thorictus*, Germ. (*Sphærophorus*, Waltl.), of 13 species, occurring in Syria, Egypt, Oran, Caucasus, Algiers, &c.; and the other, *Myrmecobius*, Luc., of one species, *agilis*, Luc., found at Bône.

35. CRYPTOPHAGUS SERRATUS, Gyll. Ins. Suec. i. 171, 7; Erichs. Ins. Deutschl. iii. 374, 5 (*Paramecosoma*); De Marseul, Cat. Col. d'Eur. &c.; G. R. Crotch, "The Entomologist," vol. i. p. 210, 147.

Mr. Crotch remarks that this fine species, referred by Erichson to *Paramecosoma*, is rightly placed in *Cryptophagus* by Thomson (Skand. Col. v. 250, 1). The only specimen he has seen was brought from Scotland by Mr. Charles Turner, from whom it passed into the hands of Mr. E. W. Janson.

It appears to be distinguishable from any other of the *Cryptophagi* by its uniform dark-pitchy colour; the equally and plainly serrated edges of its thorax, of which the anterior angles are not elevated; its strong punctuation—the sutural stria of its elytra being sub-conspicuous in front—and by the penultimate joint of its tarsi being less than the preceding.

It is about the size of *C. scanicus;* and should be found on female blossoms of the sallow.

36. ATOMARIA DILUTA, Erichson, Ins. Deutschl. iii. 380, 6; R. Hislop, Ent. Monthly Mag. vol. ii. p. 139.

Taken by Mr. Hislop and Mr. Sharp in Scotland (by the latter gentleman near Edinburgh).

It belongs to the section in which the antennæ are closely approximated at the base; and is large, testaceous, shining,

and rather depressed, with long robust antennæ, being chiefly distinguished by the wide and fine punctuation of the thorax, of which the sides are but slightly narrowed in front, where they terminate in a slight but distinct and acute point. In size and colour it suggests *A. ferruginea;* from which the three-jointed club of its antennæ will at once distinguish it.

37. Atomaria Barani, Ch. Brisout, Gren. Cat. des Col. de Fr. Mat. v. 69, 87 (1863); E. C. Rye, Ent. Monthly Mag. vol. ii. p. 156.

To this species (which has for some time stood in my cabinet with the MS. name of *Wollastoni*) must be referred the Hammersmith Marsh specimens referred to by me in the last "Annual," p. 68, and which were formerly considered by Dr. Kraatz (with doubt) as varieties of *A. fumata*, Erich.

Independently of its more flattened and parallel shape and finer punctuation, this insect exhibits an entirely different habit and coloration to *A. fumata;* being found in marshy places, and the lightest specimens being light reddish-brown, with the suture and apex of elytra darker, whilst the darkest are pitchy-black with a slight spot at the apex. The intermediate forms have usually a spot at the shoulder, and an oblique livid stain near the apex.

Mr. D. Sharp has recently taken a long series, of all colours, in a marshy place at Eltham.

38. Atomaria impressa, Erichson, Ins. Deutschl. iii. 389, 19; D. Sharp, Ent. Monthly Mag. vol. ii. p. 157.

Mr. Sharp records the capture by himself of a single example of this species at the bottom of a hay-rick near Lee, Kent.

It appears to be nearest to *A. munda*, of our species (having the thorax abruptly depressed in the middle behind); but to be larger than that insect, with brown, unicolorous elytra and thorax, thinner antennæ, and finer and more remote punctuation.

39. ELMIS CUPREUS, Müller, Illig. Mag. v. 205, 8; Heer; Er. Ins. Deutschl. iii. 531, 11; D. Sharp, Ent. Monthly Mag. vol. ii. p. 12.

Mr. Sharp has taken this species at Aberlady, near Edinburgh (where I afterwards had the pleasure of taking a large number in his company), and thinks it not improbable that it is confounded with *E. nitens*, Müll., in British collections. Mr. Sharp has, I believe, since found several specimens among some unexamined Coleoptera taken by himself in Buckinghamshire.

It appears to differ from *E. nitens* in being rather smaller, with oblique impressions on the thorax, the posterior angles of which are not so much directed outwards: the striæ of the elytra are also more strongly punctate, and the alternate interstices elevated.

Mr. Sharp remarks that Mr. Waterhouse has referred the *E. cupreus* of Stephens to *E. nitens*, but that the description in Manual (637) certainly refers to the former species. It is, also, included in M. de Marseul's Catalogue (1863) as British.

40. ÆGIALIA RUFA, Fab. Ent. Syst. i. 39, 129; id. Syst. El.; Schön.; Er. Ins. Deutschl. iii. 918, 2; G. R. Crotch, Proc. Ent. Soc. 6 Nov. 1865; Ent. Monthly Mag. vol. ii. p. 169.

Mr. Crotch exhibited an example of this species, of which

some numbers (since, save this one, unfortunately destroyed) were taken by Mr. F. Archer near Liverpool.

It is larger than either of our other species; winged, reddish-brown, with a rugose prothorax, which is margined at the base, and oblong, strongly crenate striate elytra.

It appears to be very rare in North Germany.

41. Agriotes pilosus, Panz. Faun. Germ. 93, 19; Kies., Er. Ins. Deutschl. iv. 257, 2; J. A. Power, Ent. Monthly Mag. vol. i. p. 235.

Dr. Power records the presentation to himself, by Mr. Sidebotham of Manchester, of this fine species, new to our fauna, but against the British origin of which there is strong suspicion.

It appears that Mr. Sidebotham obtained the insect (which is very like *Synaptus filiformis* in habit, but fully twice as large, and with the colour and pubescence of *Agriotes sputator*) from a collecting-bottle given by him to a Manchester working-man, who probably took it in a yard where timber, dye-woods and roots were stored, as he was in the habit of visiting such a place. The species is a native of Germany, especially found in mountainous districts; and, being a root-feeder, could easily have been imported.

42. Telephorus nigricans, Müll.; Wat. Cat.

Mr. Crotch ("The Entomologist," vol. ii. 168, 6) refers to this species, as a variety, the *discoideus* of Stephens (*nec* Ahrens); and remarks that two of the latter were submitted by him to M. de Marseul, who returned them as *T. nigricans*.

The variety, if such it be, is very well marked and constant; abounding at Rannoch, where I did not see any of the ordinary Darenth *nigricans*, of which I have taken speci-

mens with black disc to the thorax. These are always larger and more robust than the Scotch specimens.

43. TELEPHORUS ASSIMILIS, Payk. Faun. Suec. i. 261, 6; Fallén; Gyll.; Kies., Er. Ins. Deutschl. iv. 489, 16; Thoms. Skand. Col. vi. 178, 7.

Mr. Crotch (*loc. cit.*) now refers to the above species the insect which he formerly registered with doubt in his Catalogue as *T. femoralis*, Brullé (a true *Rhagonycha* by its bifid claws, which resembles it in colouring), and which he believes to be the "21* Sp.—— ?" of Waterhouse's Catalogue.

The description given by Mr. Crotch ("black; thorax rufo-testaceous, disc more or less black; elytra and tibiæ testaceous"), the locality (Scotland), original captor (C. Turner), and remark as to the generally mistaken reference to *Rhagonycha*, of this insect, which is a true *Telephorus*, all seem to point without the possibility of mistake to Mr. Waterhouse's species; to which, however, the description of *T. assimilis* seems to me inapplicable. In June last I took a large quantity of this insect at Rannoch, where it was exceedingly abundant, both in marshy places and on young birch trees, &c.; and found some slight varieties in coloration and size; the majority being about the size of *T. bicolor*, but narrower, with much thinner legs, and altogether a more delicately-built species. Mr. Crotch states that the Scotch are markedly smaller than the Continental specimens; they must, indeed, be *much* less if they are to agree with the description of *assimilis*, which, according to Kiesenwetter (who only compares it with *livida*) is sometimes larger than *rufa*, and according to Thomson (who says it is intermediate between *livida* and *liturata*) is the same size as *pellucida* and *obscura*.

In other respects besides size these Scotch specimens appear to differ materially from *T. assimilis*.

44. Telephorus hæmorrhoidalis, Fab. (1792), Mars. 62.
clypeatus, Ill., Gyll., Wat. Cat.

Mr. Crotch (*loc. cit.*) gives the above synonymy for this species.

45. Telephorus fulvus, Scop. (1763); Mars. 79.

From Mr. Crotch's paper (*loc. cit.*), I presume this name is intended to supersede the *T. melanurus* of Wat. Cat.

46. Telephorus testaceus, Linn. Faun. Suec. Ed. ii. 714 (*Cantharis*); Thoms. Skand. Col. vi. 191, 4.

Mr. Crotch (*loc. cit.*) follows Thomson in separating what have been hitherto usually considered as forms of the same species. The insect commonly known as *testaceus* has always the femora, and sometimes the legs entirely, black: this is the *T. limbatus*, Thoms. (*loc. cit.* 191, 5); and, from Mr. Waterhouse's Catalogue, appears to be the *T. testaceus* of the Linnæan Collection.

The *testaceus* of Linnæus (whose meagre description states the legs to be yellow) has the entire legs (not *feet*, as accidentally appears in Mr. Crotch's notice) ochreous; and was separated by Stephens, under the name *ochropus* (and *pallipes* of his Coll.), from what he considered to be *testaceus*.

Thomson states that in the male of *testaceus* the penultimate ventral segment of the abdomen is widely emarginate at the apex; and that in the female the terminal ventral segment has its apex very slightly sinuated on each side; whilst in *limbatus* the male has the penultimate segment depressed and sub-truncate at the apex, with a tubercular-projection

on each side, and the female has the last ventral segment slightly emarginate at the apex.

I cannot satisfactorily follow these differences in the male, owing partly to their slight character, and partly to the difficulty of deciding between natural structure and accidental distortion in such a soft and easily-wrinkled substance as the abdominal plate of a *Telephorus;* but, in the female the difference, though small, is readily perceptible, as far as I have observed.

I found both species together at Rannoch, but others do not appear to take them in company; and the insect with entirely yellow legs is certainly the rarer of the two.

47. MALTHODES MYSTICUS, Kies., Linn. Ent. vii. 282, 7; id. Ins. Deutschl. iv. 538, 5; Thoms. Skand. Col. vi. 199, 3; G. R. Crotch, "The Entomologist," ii. 182; T. J. Bold, Ent. Monthly Mag. vol. ii. 63.

Mr. Crotch records this species on the authority of several specimens in Mr. Wollaston's Collection; and Mr. Bold has taken two examples at Gibside, in July last year.

It appears to be like *biguttatus*, Linn., Thoms. (which name is placed by Mr. Crotch before *marginatus*, Latr.), but having the elytra generally unicolorous, and the lateral margins of the thorax dark.

48. MALTHODES BREVICOLLIS, Payk. Faun. Suec. i. 269, 16; Gyll.; Thomson, Skand. Col. vi. 200, 4 (*nec* Kies.)

nigellus, Kies. Ins. Deutschl. iv. 555, 20.

Mr. Crotch (*loc. cit.*) states that he has two examples apparently referable to this species (which is small, entirely black, with shining thorax), but unfortunately both are females, so that he cannot speak with certainty.

49. Malthodes atomus, Thoms. Skand. Coll. vi. 202, 6; *brevicollis*, Kies.; Wat. Cat. (*nec* Payk.)

Mr. Crotch (*loc. cit.*) points out the above change in nomenclature.

50. Malthodes fibulatus, Kies., Linn. Ent.; id. Ins. Deutschl. iv. 552, 17; Thoms. Skand. Col. vi. 204, 8.

Mr. Crotch (*loc. cit.*) states that there are several examples of this species in Mr. Wollaston's Collection, apparently from Cambridge, and that he has seen a specimen in that of Dr. Power.

It appears to be unicolorous, differing from *M. mysticus* by its antennæ being pale at the base; and is in Thomson's section wherein the thorax has the sides not margined, and the anterior angles elevated.

51. Malthodes pellucidus, Kies., Linn. Ent.; id. Ins. Deutschl. iv. 537, 4; Thoms. Skand. Col. vi. 206, 10.

Mr. Crotch (*loc. cit.*) has two or three females probably referable to this species, and has recently seen a male from Dr. Power which he thinks belongs to it. It is stated to be not unlike *M. marginatus*, but smaller, the antennæ with the base dark, and anterior tibiæ pale.

52. Malachius ruficollis, Olivier, Ent. ii. 27, 9, 10, T. 2, F. 9 (1790); Kiesenw. in Er. Ins. Deutschl. iv. 594, 3; G. R. Crotch, "The Entomologist," vol. i. pp. 209, 214.

Mr. Crotch (following Kiesenwetter, *loc. cit.*) remarks that *M. rubricollis*, Marsham, is identical with this species; Olivier's name being the oldest, and therefore entitled to priority: also, that the smaller species of *Malachius* have

been recently formed into a genus by MM. Motschulsky and Thomson, which has been accepted by M. Kiesenwetter; the principal character being that of the produced second joint of the tarsi in the male, in allusion to which the name *Axinotarsus*, Mots., has been employed to distinguish them. The only other recognized British species in this new genus appears to be *pulicarius*, Fab.; to which Mr. Crotch notes that the *marginalis* of Laporte is very nearly allied, being distinguished easily by its testaceous anterior tibiæ.

53. ANTHOCOMUS TERMINATUS, Ménét. Cat. rais. 164, No. 664 (1837); Falderm.; Kiesenw. in Er. Ins. Deutschl. iv. 598, 4; G. R. Crotch, "The Entomologist," vol. i. pp. 209, 214.
ruficollis, Fab., Er., Wat. Cat. (*Malachius*); nec Oliv.

Mr. Crotch notes from Kiesenwetter that the *Malachius ruficollis* of our collections is an *Anthocomus*, and should be placed after *A. fasciatus*, under the next oldest name, *terminatus*; also that the very broadly red apex to its elytra, and its simple tarsi, will always distinguish it.

54. DASYTES SUBÆNEUS, Schönh. Syn. Ins. iii. 15, 20; Redt.; Kiesenw. Ins. Deutschl. iv. 640, 8.
æneus, Oliv. *nec* Fab.
æratus, Steph.

Mr. G. R. Crotch (Ent. vol. i. p. 225, 149) states that the above is the correct synonymy of the common insect known to us as *D. æratus*, which seems to be almost undescribed in continental works, and has therefore been queried as *æneiventris*, Kust. Mr. Crotch proceeds to remark that the latter insect is, however, Italian, though possibly only a variety of *D. æratus*, which would seem to have been first described and figured by Olivier in 1790, but was erroneously

referred by that author to *Malachius æneus*, Fab.; also, that Schönherr, in 1817, corrected the error, proposing the name *subæneus*, under which it had been described by Redtenbacher.

55. Dasytes plumbeus, Müll. Zool. Dan. prodr. 576, 1776 (*Telephorus*); Kiesen., Er. Ins. Deutschl. iv. 638, 7.

flavipes, Wat. Cat. (*nec* Fab.)

Mr. Crotch (Ent. vol. i. p. 226) states that, as the *flavipes* of Fabricius is an *Anobium* (according to Kiesenwetter), the above is the correct synonymy of the insect known to us as *D. flavipes*, a species readily distinguished by its pale tibiæ, but very likely to be mixed with *D. fusculus*, Ill., which resembles it in that respect, but is larger, and has the antennæ entirely black.

All these three *Dasytes* agree in possessing a rugulose or scabrous punctuation, and quadrate thorax, forming the sub-genus *Hapalogluta* of Thomson, who has separated another group of nearly allied species as *Psilocorse*, in which the elytra are generally punctate, and the thorax transverse, and plainly margined at the base. To this latter group belongs the *D. borealis* of Thomson, wherein the elytra are scabrous as in the first group; and Mr. Crotch has seen two examples, captured in the New Forest (both females), which must be very close to that species, having the elytra scabrous, without any punctuation, and the elytra decidedly transverse, but being a little smaller than *D. borealis* should be.

56. Telmatophilus brevicollis, Aubé, Ann. de la Soc. Ent. de Fr. 1862, 72, 2; Kies. in Er. Ins. Deutschl. iv. 672, 3; G. R. Crotch, "The Entomologist," vol. i. 210, 146.

Mr. Crotch records the capture of two specimens of this

species, new to our lists, taken by himself at Weston-super-Mare; and from his remarks (*loc. cit.*) it appears to resemble *T. caricis*, but to be smaller, with the thorax much broader than long, the femora frequently infuscate, and the whole insect in many cases piceous.

Mr. Crotch states it is found in France and Germany, and is probably overlooked; also that specimens he received from M. Aubé himself agree exactly with his own; but that M. Kiesenwetter describes it as of the size of *T. typhæ*, which Mr. Crotch does not find to be the case.

Kiesenwetter remarks that it may be known from *typhæ* through its considerably greater convexity, and stouter antennæ; and that it is taken in association with that species.

57. Telmatophilus Schönherri, Gyll.; G. R. Crotch, Cat. Brit. Col.; id. "The Entomologist," vol. i. 210, 146.

Mr. Crotch remarks that this species has been confounded with *T. typhæ*, from which it differs in having the sides of the thorax rounded in front and distinctly contracted behind; the whole insect being much narrower, and the femora and antennæ nearly black. Mr. Crotch also notices that MM. Thomson (Skand. Col. v. 244) and Kiesenwetter (Ins. Deutschl. iv. 672) do not agree well in their descriptions, either in the form of the thorax or in the coloration; and that his specimens agree best with the species as described by M. Kiesenwetter. Partly from this very discrepancy, and partly from the fact of my never being able to see any satisfactory difference in the outline of the thorax between *typhæ* and the specimens I suppose to be *Schönherri*, I am induced to believe the two are specifically identical. The coloration test appears to me to be valueless, as the femora in *typhæ* are allowed to be occasionally infuscate; moreover, I

possess specimens taken by the late H. Squire, and also by Mr. D. Sharp, at Horning, in some of which not only the femora, but the tibiæ (except the upper end), are nearly black; and in others, this depth of colour diminishes until the whole leg is testaceous. From Gyllenhal's description the antennæ should not be "nearly black," but obscure ferruginous, with the first joint black, and the tibiæ ferruginous, but darker at the apex. *T. typhæ* varies considerably in size and width; and is found on *Sparganium* (Mr. Douglas) and *Carex*, as well as *Typha*, according to Gyllenhall.

58. Anobium nigrinum, Sturm, Ins. xi. 126, T. 242, a. A.; Mulsant; Thomson, Skand. Col. v. 149, 6 (*Ernobius*); J. A. Power, "The Entomologist," vol. i. p. 271.

molle, var. c, Gyll.

—— var. b, —— (with light elytra).

Dr. Power records the capture by Charles Turner of the above species; specimens received from the latter agreeing with one in Mr. Crotch's Collection, formerly in that of Mr. Wollaston, and which is on a point of card, without date or locality, but named *nigrinum* years ago by Mr. Wollaston. Dr. Power remarks, also, that there is an example of it in the European Collection of the Brit. Mus., under the name of *Anobium plumbeum*.

Dr. Power notices the formation by Mulsant and Rey (Ess. Opus. xiii. 92, 1863) of the genus *Liozoum*, which is founded on the species of *Anobium* wherein the elytra are punctate, and the tarsi elongate and slender; adding that the propriety of that step had been previously pointed out by Thomson (Skand. Col. i. 88, 1859), who has applied the generic name *Ernobius* to such species, and whose name must therefore be retained, if *Anobium* be split into two.

Dr. Power also states that Turner's insect could only be mistaken for *A. molle*, *abietis*, or *plumbeum*, of our British species; and that it is utterly unlike the first two (*inter alia*) in being dark-coloured; differing from the last in being more elongate, less glossy, with shorter and closer pubescence, the sides of the thorax much less emarginate behind, and the elytra finely granulated.

Beyond a reference to "Scotch rarities," no clue has yet been given to a locality for this species; which, as Mr. Wollaston's specimen is from an unrecorded place, must remain one of the "Arcana of science,"—an expression once happily applied to the now despised *Cossonus linearis*.

59. ANISOXYA FUSCULA, Ill. Käf. Preuss. 132, 9 (*Serropalpus*); Redt. Faun. Austr. 629; G. R. Crotch, "The Entomologist," vol. ii. 189, 120.
Dircæa tenuis, Rosenh. Beitr. S. 34.
? *Hallomenus fuscus*, Wat. Cat.

Mr. Crotch states that two specimens of this insect were recently taken by Mr. Brewer, one of which passed into the hands of Mr. Janson, and the other into the British Museum. These specimens appear to have been originally named *Hallomenus fuscus*, Gyll., from a comparison with two examples of Dr. Power's (which are, as Mr. Crotch believes, the only authority for that species as British);—the latter also being unquestionably identical, as Mr. Crotch conceives, with *Anisoxya fuscula*.

Anisoxya appears to be a genus established by Mulsant, in 1856, to include *Dircæa tenuis*, Rosenh., an insect afterwards identified with *Serropalpus fusculus*, Ill., which seems to be widely distributed over the Continent. It is of an unicolorous brown, with pale pubescence; having the appearance of an *Abdera*, from which it may be known by its long

spurs, the unequal development of which (those on the intermediate tibiæ being the longest) will distinguish it from the members of any other allied genus.

60. Phlœotrya Stephensii, J. du Val, Gen. des Cols. d'Eur. 1862.
rufipes, Steph. *nec* Gyll.

Mr. Crotch (Entomologist, ii. 178, 114) remarks that he has long felt that our *P. rufipes* did not accord with the description given by Mulsant and others, either in the details, or in mere coloration, the antennæ being said to be black, with the base rufous. It seemed, however, to be very near *P. Vaudoueri*, Muls. (recorded by Mr. Westwood for Britain). Mr. Crotch states that M. du Val (*loc. cit.*) calls attention to this, separates *rufipes*, Gyll., generically under the name of *Dolotarsus*, and proposes the name *Stephensii* for our species; which, according to him, differs from *P. Vaudoueri* in having the thorax more rugose, the foveæ at the base scarcely visible, and the elytra with elevated lines; the terminal joint of the max. palpi being also narrower.

61. Apion Bohemanni, Boh. in Schön. Gen. et Spec. Curc. v. 405, 99 (*mas*); Thomson, Skand. Col. vii. 60, 24.
ononidis, Gyll. Ins. Suec. iv. App. 539, 19; D. Sharp, Ent. Monthly Mag. vol. ii. 119.
ononicola, Bach, 195.

Taken by Mr. Sharp in profusion on *Ononis arvensis* (or *O. spinosa*) on the south coast.

It is a large species, belonging to the yellow-legged group, and at first sight suggestive of *A. fagi;* but, on examination, appears more closely allied to *A. assimile.* The male may be distinguished from both of these species by its stout,

almost subulate rostrum, and by its longer antennæ: the female differs from *A. assimile* in its larger size, dull and very closely rugose-punctate thorax and longer antennæ; and is easily distinguished from the same sex in *fagi* by its very strongly arched rostrum. All the femora are rufo-testaceous (the anterior coxæ and trochanters being also of that colour); the anterior tibiæ are very dusky testaceous, and the other tibiæ black.

Mr. Sharp's insects agree with a type sent by Schönherr to the late Mr. Walton, and supposed to have been taken by Gyllenhal; and a specimen of Dr. Power's has (I believe) been returned from the Continent as *A. ononidis*.

Thomson, having examined the original specimens of Schönherr's Apions, has identified Boheman's insect with Gyllenhal's. The change of name will certainly avoid confusion with the *A. ononis* of Kirby; though, I suppose, grammatical purists would have preferred the suppression of the false genitive.

62. SITONES GRESSORIUS, Fab. Ent. Syst. i. ii. 465, 296 (*Curculio*); Redt.; Allard, Ann. de la Soc. d. Fr. Tom. xiv. 1864, 329; G. R. Crotch, "The Entomologist," vol. i. p. 211, 147.

Mr. Crotch states that he has an example of this species (mentioned as being likely to occur in England by me) placed with *Tanymecus palliatus* in an old duplicate box of insects taken by himself in the South of England; and there can, he thinks, be no doubt of its genuineness.

From my note (Ent. Monthly Mag. vol. i. p. 229), it will be observed that this insect, re-united by Schönherr to *S. griseus*, differs from that species in being larger, with the head less inclined, and the eyes more prominent; the head and the thorax together, also, are longer in proportion, the

latter having a *narrow*, straight, longitudinal white line, exactly in the middle. The punctuation of the thorax, moreover, is stronger, and the striæ of the elytra are more evident.

63. Sitones lineellus (Gyll., Schön.), Allard, (*loc. cit.*); G. R. Crotch, Cat. Brit. Col.; E. C. Rye, Ent. Monthly Mag. vol. i. p. 231; G. R. Crotch, "The Entomologist," vol. i. p. 211, 147.

Mr. Crotch, as anticipated, withdraws this as a British species; and states it was re-introduced by him on receiving a MS. list of *Sitones* from M. Allard, in which it was given as distinct; and, knowing that there were specimens existing in several British collections under its name, he imagined they probably belonged to the true species; which, however, appears not to be the case.

All the so-called British *lineëllus* seen by me are varieties of *tibialis*: the true species of that name appears to be thoroughly boreal, very like small *crinitus*, but with less prominent eyes, finer and more closely punctured thorax, elytra contracted towards the base, more strongly punctured and deeply striated, and with only a few small very short hairs at the hinder extremity.

From Mr. Walton's remarks it would appear that both Gyllenhal and Schönherr were confused as to this species; some exponents of which, sent by those authors, were, in his opinion, merely examples or varieties of *tibialis*.

64. Sitones cinerascens, Schön. Gen. vi. p. 256; Allard (*loc. cit.*); E. C. Rye, Ent. Monthly Mag. vol. i. p. 256.

In M. Allard's "Classification, &c.," this species is stated to occur in England, on the authority of the collection of

the French Museum; and to be very closely allied to *S. cambricus*, having *the same structure and size*, and being distinguished from that insect principally by the cinereous silky pubescence on its upper surface. The pubescence appears to be closer and longer than in *S. cambricus*, often preventing the punctuation of the insect from being seen; the punctuation, moreover, is a *little* weaker, the head is less furrowed, and the elytra *seem* to be a *little* longer. The antennæ *appear* to be more ferruginous, and the entire insect has an uniformly lighter appearance.

65. TRACHYPHLŒUS ARISTATUS, Gyll. (Schön. Curc.), Ins. Suec. iv. 613, 35, 36; E. C. Rye, Ent. Monthly Mag. vol. ii. p. 156.
stipulatus, Germ.
squamulatus, Oliv., *var.*; Walton, Ex. Ann. and Mag. of Nat. Hist. 1844, 83, 4.

Walton, although he has remarked some of the differences between *T. aristatus* and *squamulatus*, erroneously considers them as specifically identical; imagining specimens of the latter, sent to him on two different occasions by Chevrolat, to be small immature varieties of the former, but retaining Olivier's name as entitled to priority.

The true *T. squamulatus* appears to be found most commonly on the south coast (Seaford, taken by Messrs. Waterhouse and myself; and Hythe, Rev. W. Tylden), and is usually smaller than *T. aristatus* (my specimens of which were taken at Wickham and Mickleham), and of a lighter reddish colour; its thorax is not so transverse, being much less expanded at the sides; its legs and antennæ are rather shorter, the basal joint of the latter being somewhat abruptly contracted in the middle, and the setæ on its elytra are much shorter, and more slender and uniform; whilst in *T. aristatus* they are erect, long, stout, and individually very decidedly

thickest at the tip. Messrs. E. and C. Waterhouse first brought these differences in the setæ to my notice.

66. Tychius pygmæus, De Barneville, Rev. et Mag. de Zool. série ii. Tom. xii. 1860, p. 167; E. C. Rye, Ent. Monthly Mag. vol. i. pp. 168, 237.
brevicornis, Waterhouse, Proc. Ent. Soc. Lond. 1862 (5 May).

My remarks in the last "Annual" (p. 75), as to the probable identity of these two species, have been confirmed through the kindness of Mr. G. R. Crotch, who has been good enough to bring me one of M. de Barneville's types of *T. pygmæus*, which is identical with Mr. Waterhouse's insect.

It appears to be found on the south coast, occurring at Seaford, &c.

67. Cœliodes exiguus, Olivier, Ent. v. 83, p. 138, 95; Gyll. in Schön. Syn. Ins. iv. part i. 304, 25; G. R. Crotch, "The Entomologist," vol. i. p. 261.

Mr. Crotch states that M. Ch. Brisout has separated this species from British specimens of *C. Geranii* sent by him, which it certainly very closely resembles.

From Schönherr (*loc. cit.*) it appears to be exceedingly closely allied to *C. Geranii*, but to differ from it in being blacker, shining, with its thorax more finely punctulated, larger tubercles on the elytra, which are set with longer setæ, and its femora more evidently dentate.

68. Cœliodes fuliginosus, Marsham, Ent. Brit. 280, 124; Steph.; Gyll. in Schön. Syn. Ins. vol. iv. part i. 291, 12.
guttula, var. b. Gyll. Ins. Suec. iv. 592.

Mr. Crotch states that M. Brisout regards this as not only

a good species, but as *the* species; the true *C. guttula* being very rare, and of more northern distribution; also that all his specimens of the so-called *guttula* sent to M. Brisout were returned as *fuliginosus*. I see, also, it is recorded as British in M. de Marseul's Catalogue.

From Schönherr (*loc. cit.*) this species appears to resemble *guttula* very closely, but to be rather less in size, with the forehead level between the eyes, and with no impressed foveola; the thorax narrower in front, with its sides not sinuated, the dorsal furrow not so deep and more widely interrupted, and the lateral tubercles less and conic.

69. CEUTHORHYNCHUS CRUX, Walton, MS.; Wat. Cat.
cruce-signatus, Dawson, MS.

With reference to *Ceuthorhynchus* generally, Mr. Crotch informs us ("The Entomologist," vol. i. p. 260) that he has laid a nearly complete series of our English species (including such as are under manuscript names, and which appear to be pretty generally known) before M. Ch. Brisout de Barneville, who has during some time occupied himself with that interesting group, and is about to publish his work (in the French "Annales") during the ensuing winter.

It will be anticipated from the following alterations, &c., proposed by Mr. Crotch in the above-mentioned Journal, on the authority of M. Brisout, that much yet remains to be done in other genera.

As regards the species above named, Mr. Crotch remarks that it is hitherto undescribed, and that M. Brisout has provisionally named it *C. Euphorbiæ*:—*why*, I am at a loss to conceive, since it seems to come off *Veronica* (according to Mr. Samuel Stevens, who periodically takes it at Mickleham); it would seem also more in accordance with the proverbial Gallic courtesy if the species were allowed to retain

the name under which it was received by M. Brisout, and has been so long known here.

I believe one reason why this insect has remained undescribed by a British author, is that it was supposed to be the male of *C. urticæ*. The species is not common, but occurs at Shirley (where I have taken several specimens in early spring), Mickleham, and Deal. It may be shortly described as *asperifoliarum* with dark tibiæ.

70. Ceuthorhynchus uliginosus, (Walton) Schön.; Ent. Annual, 1863, p. 99, 95.

Mr. Crotch remarks that Mr. Waterhouse has disposed of this species (as British); but that, as if to add to the confusion, the Schönherrian type is not *Cœliodes didymus*, as is the late Mr. Walton's.

71. Ceuthorhynchus campestris, (Ziegler) Gyll. in Schön. Syn. Ins. iv. part i. 523, 73.

Mr. Crotch states that *C. chrysanthemi* is equivalent to this species; and that from it M. Brisout separates a smaller, differently marked form as *C. vicinus*. I have taken a very small form of this insect at Shoeburyness; but cannot say that I see any difference in the marking.

72. Ceuthorhynchus rugulosus, Herbst, Col. vi. p. 406, 386; Gyll.; Schön. Syn. Ins. iv. par i. 527, 78.

Mr. Crotch remarks that *C. melanostigma* is equivalent to this species; and that the proposed alteration wil remove the confusion between that insect and *C. melanostictus*, Marsh.

73. CEUTHORHYNCHUS PUNCTIGER, (Megerle) Gyll. in Schön. Syn. Ins. iv. part i. 346, 92.

Mr. Crotch states that this insect is again separated from *C. marginatus*; Walton and Thomson, however, having united them purposely.

Gyllenhal (Ins. Suec. iv. 593, 130) originally considered *punctiger* as a variety of the species; applying to it the names *minor* and *pygmæa*.

From Schönherr (*loc. cit.*) it appears to be very like *C. marginatus*, but generally two sizes smaller, or even more; with the sides of the thorax bearing a small (often obsolete) tubercle, and the apex of the pygidium incised, instead of rotundate and entire.

I possess a very small insect, taken in company with, and exactly resembling, *C. marginatus*, in which there are but *six* joints to the funiculus of the antennæ.

74. CEUTHORHYNCHUS VERSICOLOR, Ch. Brisout, MSS.

Mr. Crotch states that his specimens purporting to be *C. quercicola* are referred by M. Brisout to this unpublished species; and that very possibly we have the true *quercicola*, Fab., also.

De Marseul,—although rightly eliminating, as *Ceuthorhynchidei*, certain species hitherto always considered properly located in *Ceuthorhynchus*,—still retains *quercicola*, Fab., in the latter genus. My specimens representing that species,—most probably identical with Mr. Crotch's, as they agree with the ordinary *quercicola* of British collections,—are, however, to be referred to *Ceuthorhynchideus*, having only six joints to the funiculus. I see that in this (as, indeed, in every other) respect they agree with the *quercicola* of Thomson, who considers his insect to be the Fabrician species of that name.

75. Ceuthorhynchus nigroterminatus, Wollaston, Cat. Col. Mad. (1854), 327, 250.
mixtus, Mulsant, Op. 1859, 37.

Mr. Crotch (*loc. cit.*) states that he has one specimen from Gainsborough, and that Dr. Power has another, which appear to belong to this species; a determination in which Mr. Wollaston himself agrees, remarking only that these insects are a little less tessellated than the Madeiran examples.

From the Ins. Mad., this species appears to be known by its somewhat shortened outline, sub-rugulose surface, considerably abbreviated elytra (which have not only an obscure patch about the scutellum, but likewise their hinder margin more or less densely clothed with white scales), and comparatively dark antennæ; also by the apical joint of all its tarsi being tipped with black.

It has dentate femora, and should be placed near *pollinarius*.

76. Ceuthorhynchus verrucatus, (Steven) Gyll. in Schön. Syn. Ins. iv. part i. 541, 97.

Mr. Crotch remarks that *C. biguttatus*, (Waterh.) Boh., is identical with this species; and I see that De Marseul in his last Catalogue (1863) has placed the two together; giving the priority to *verrucatus*, as *biguttatus* was published in the Supplement to Schönherr, some years after the body of that work.

Mr. Brewer has recently taken a large number of this hitherto excessively rare species on the horn-poppy at Worthing.

77. Ceuthorhynchus angulosus (Germar) Bohem. in Schön. Syn. Ins. viii. part ii. 161, 117.

Mr. Crotch states that *C. impressicollis*, Little, MS.,

Wat. Cat., must be referred to the above species; and that it is of very great rarity abroad, as here.

This insect appears to be of the size of *C. pollinarius*, but to have a longer, narrower, sub-conic thorax.

78. CEUTHORHYNCHUS RAPÆ, (Gyll.) Schön. Syn. Ins. iv. part i. 547, 105; Redt. Faun. Aust. 805.
inaffectatus, Wat. Cat. *nec* Schön.

Mr. Crotch remarks that Mr. Walton's suspicion as to *inaffectatus* being specifically identical with *Syrites* has proved correct; and that the insects lately known to us by the former name (and formerly by the latter) are to be referred to *C. rapæ*.

This species occurs rarely near London; Mr. Pelerin taking it periodically on the northern side, where (Tottenham) Messrs. C. & F. Waterhouse have also found it; and Mr. Sharp recently discovered it on the south, at Lee, on *Sisymbrium officinale*, accompanied by *C. assimilis*.

79. CEUTHORHYNCHUS ALLIARIÆ, Brisout de Barneville, Ann. de la Soc. Ent. de Fr. 1860, 537.
inornatus, Waterhouse.

Mr. G. R. Crotch (Ent. ii. 179, 116) remarks that M. de Barneville's name, being the oldest, must be retained; and that the specific identity of the two insects was pointed out to him by M. de Barneville himself, who had seen specimens from England.

80. CEUTHORHYNCHUS PILOSELLUS, Gyll. in Schön. Syn. Ins. vol. iv. part i. 346, 94.

Mr. Crotch remarks that *C. hispidulus*, Stevens, MS., is equivalent to this species, which occurs in Spain and the south of France.

Mr. Waterhouse has taken it at Deal; and Dr. Power on the South Devon coast.

81. Ceuthorhynchideus hepaticus, Gyll. in Schön. Syn. Ins. iv. part i. 482, 10; G. R. Crotch, "The Entomologist," vol. i. p. 259.

Mr. Crotch states that a specimen from Dr. Power's Collection near *C. floralis*, but distinct, has been returned by M. Ch. Brisout as this species.

The two insects have long been separated, I believe, in Mr. S. Stevens' Collection; and a single specimen, identical with Dr. Power's, was taken at Seaford in August last by Mr. C. O. Waterhouse.

It somewhat resembles *C. floralis*, but is larger, more convex, with no sutural lighter streak, shorter limbs, and lighter coloured tarsi. According to Schönherr, the tibiæ also should be "dilutius testaceis," and the elytra "dilutius fusca seu hepatica, opaca, squamulis cinereis nitidis adspersa." I have seen nothing answering to this coloration.

82. Ceuthorhynchideus minimus (Walton, in litt.), E. C. Rye, Ent. Monthly Mag. vol. ii. p. 11.

In the above place will be found a description (taken from a letter written by the late Mr. Walton to Mr. Waterhouse) of this species, which appears to have been founded on two examples supposed to have been placed by Dr. Leach in the National Collection,—where, however, they are not now to be found.

It would seem to resemble *C. floralis*, from which (according to Mr. Walton's description) it may be immediately distinguished by having the thorax and elytra beautifully variegated with white scales (the latter especially being spotted as in *Cœliodes didymus*), and by its sides, front, and

under surface being densely clothed with silvery-white scales. Long. ¾—1 lin.

83. CEUTHORHYNCHIDEUS PUMILIO, Gyll. Ins. Suec. iv. App. 578, 66, 67 (*Rhynchænus*); E. C. Rye, Ent. Monthly Mag. vol. ii. p. 63; G. R. Crotch, "The Entomologist," vol. i. p. 259.

The insect described by me as *C. Poweri* (Ent. Monthly Mag. vol. i. p. 137) appears to be identical with the above species. Having gone through the sub-genus *Ceuthorhynchideus* of Dr. Schaum's last European Catalogue, and found that we possessed all its members, I naturally imagined that this distinct insect was new to science; it seems, however, that several species of *Ceuthorhynchideus* are erroneously included among *Ceuthorhynchus* in that Catalogue;—hence my mistake.

De Marseul, in his Catalogue (obtainable for half-a-crown through Messrs. Williams & Norgate) correctly places this species, with *horridus* and *troglodytes*, in the six-jointed-funiculus genus. He, however, still retains *quercicola* as a true *Ceuthorhynchus*, Thomson being the first to remark its true character.

The latter author erroneously considers *cochleariæ*, Gyll., as a *Ceuthorhynchideus*; giving *pyrrorhynchus*, Marsh., as a synonym. Gyllenhal's insect is a true *Ceuthorhynchus*, and Marsham's name must stand.

84. CEUTHORHYNCHIDEUS CHEVROLATII, Ch. Brisout, MS.

Mr. Crotch (*loc. cit.*) briefly intimates that M. Brisout intends to publish under the above name the elegantly and distinctly white-striped and banded var. of *troglodytes*, long known to us. It appears not to be common, being

sometimes found in moss. Beyond the superficial differences of colour (and which are, indeed, themselves only comparative), I must confess an inability to see any points of discrepancy between this insect and the ordinary type of *troglodytes*.

85. Ceuthorhynchideus frontalis, Ch. Brisout, MS.

Mr. Crotch (*loc. cit.*) also informs us of M. Brisout's intention to describe under this name the insect hitherto considered a small form of *troglodytes*. It has, I believe, long been separated from that species in Mr. S. Stephens' Collection; and appears to be rare. Mr. Waterhouse and his sons took some few specimens (with me) at *Seaford* during the last autumn. They were at the roots of a small plantain.

The insect very closely resembles *C. troglodytes*, but is much smaller; and appears to have invariably a patch of white scales between the eyes.

86. Ceuthorhynchideus Dawsoni, Ch. Brisout, MS.

Mr. Crotch (*loc. cit.*) remarks that M. Brisout, having received from Mr. Dawson the insect known to us as *pygmæus*, Guyon, in litt., intends to describe it under the above name. It would, doubtless, have been in better taste if the name under which it was received, and by which it has so long been known to us, were retained by M. Brisout; but, after having neglected the opportunity of describing the insect for so many years, British Entomologists have lost the right to object on this score.

This, of all the troglodytoid forms, appears to be the most worthy of specific elevation; on account of its exceedingly small size, more ovate and continuous outline, com-

parative want of setæ, and usually clear rufous legs and rostrum.

It occurs not uncommonly on the south coast, and seems not to be accompanied by the type *troglodytes*.

87. GYMNETRON VILLOSULUS, Schön. Syn. Ins. iv. 747, 4; G. R. Crotch, "The Entomologist," vol. i. p. 218.

beccabungæ, Walton, Wat. Cat. (*nec* Linn.).

Mr. Crotch has forwarded his series of *Gymnetron* to M. H. Brisout de Barneville, who has recently revised that genus in the French "Annales;" the result being that certain changes appear to be necessary in the names of some of our species, and that one is added to our list.

In reproducing M. de Barneville's analysis, Mr. Crotch remarks that in this genus the sexes often vary considerably; the male being known by the impression on the metasternum, and first ventral segment, and by the shorter and more punctate rostrum; also that the species group themselves naturally under three heads, which have been regarded as sub-genera and may be thus distinguished:—

I. Rostrum filiform, sub-linear; elytra sub-ovate, slightly convex, almost covering the pygidium	*Gymnetron*, proper.
II. Rostrum straight or attenuated, received into a channel of the thorax; elytra sub-quadrate; pygidium exposed ..	*Rhinusa*, Steph.
III. Rostrum filiform, bent, received into a channel of the thorax; antennæ fine, club oblong	*Miarus*, Steph.

The present species, recognised by its depressed, almost silky pubescence, and found on *Veronica Anagallis*, appears to have been erroneously considered as the true *beccabungæ* by Walton. Mr. Crotch has found it abundantly at Wey-

mouth, and near Cambridge; but, with the exception of Mr. Wollaston's specimens, and those taken by my friend Mr. W. Garneys, at Bungay in Suffolk, I know of no other recent captures of this species, at all events in any numbers.

88. Gymnetron beccabungæ, Linn. Faun. Suec. 607 (*Curculio*); Gyll.; Germ.; Schön. Syn. Ins. iv. 349, 6.
var. *veronicæ*, Germ.; Schön. (*loc. cit.*), 748, 5.
var. *niger*, Walt.

Mr. Crotch (Ent. vol. i. p. 219), points out the above alterations in the name of the insect hitherto known to us as *veronicæ*, found on *Veronica beccabunga* and *Schrophularia*, and subject to great variation in colour and size; the usual form being black, with the sides of the thorax white.

It appears that Mr. Wollaston, long ago (in the "Zoologist") expressed his belief in the specific identity of the different varieties of this insect,—an opinion since abundantly confirmed.

89. Gymnetron micros, Germ.; Schön. Syn. Ins. iv. 776, 50; G. R. Crotch, "The Entomologist," vol. i. p. 220.

Mr. Crotch records this species as British, on the authority of two specimens, taken by Mr. T. V. Wollaston at Whitsand Bay, Cornwall; and describes it as "sub-ovate, thickly clothed with cinereous hairs; rostrum slightly arcuate; thorax thickly punctured; elytra obsoletely punctate-striate; femora unarmed. 1—1$\frac{1}{3}$ line." He mentions, also, that the general form of the insect is that of *Campanulæ*, from which its lightly striated elytra at once distinguish it; and that it occurs on the Continent on *Helianthemum guttatum*, in dry places (*Perris*).

90. CRYPHALUS TILIÆ, Fab. S. E. ii. 383; Ratz. Forst. i. 164, tab. xiii. fig. 20; J. A. Power, Ent. Monthly Mag. vol. i. p. 212.

Taken by Charles Turner, in December, 1860, near Bridgnorth; also, subsequently, and in large numbers, near Lincoln, in the bark of a tree called "Bass" by the country people, and which Dr. Power believes to be a species of *Tilia*.

This species is included as British in de Marseul's Cat. Col. d'Europe (1863).

It varies much in size; the general magnitude being about that of *C. abietis*, and the largest specimens not so large as small *C. binodulus*. Mature specimens are brownish-black, with rows of strong greyish pubescence on the elytra; and the species is readily distinguished from all others found in this country by the structure of its thorax, the tufted processes surmounting which are limited to the upper and anterior part, and do not extend to the lateral margins. Moreover, instead of being scattered, so as to produce a kind of granulated appearance, they are symmetrically arranged in about three distinct rows placed in transverse curves, with clear intervals between them; and, in the median line, the absence of tufts produces the appearance of a smooth space connecting the outer spaces.

It is placed by Redtenbacher in a section of the genus wherein the anterior margin of the thorax is armed with teeth; and, under a moderately high power, these teeth can be distinctly seen in the present insect; assuming the form of four small, closely-packed, longitudinal ridges, exactly in the middle of the anterior margin.

91. Leptura rufa, (Dej.) Brullé, Expédit. de Morée, iii. 265, pl. 43, f. 6 (1832); Muls. Longic. de France, 269 (1840); D. Sharp, Ent. Monthly Mag. vol. ii. p. 157.

v. *trisignata*, Fairm.

Mr. Sharp records the capture by Mr. Thorncroft, during the past summer, at Holme Bush, Sussex, of a single male example of this species (now in his own Collection), which appears to be rare, occurring in the South of France, Spain, Turkey and Greece.

It is next to *L. scutellata*, and about the same size, with the head, thorax and antennæ black (the first joint of the latter sometimes red), and elytra brownish-red, punctured coarsely at the base, and finely at the apex. The underside is covered with ashy pubescence; the abdomen being more or less red towards the tip.

92. Cryptocephalus 10-punctatus, Linn. Syst. Nat.; Faun. Suec. 560; Gyll. Faun. Suec. iii. 619, 15; E. C. Rye and D. Sharp, Ent. Monthly Mag. vol. ii. p. 52.

A considerable number of this most elegant and variable species (Frontisp.) were taken in June last, by Mr. Sharp, Mr. Hislop and myself, on the dwarf sallow, near Camachgouran, Loch Rannoch.

It is rather larger than *C. moræi*; the type form (apparently represented only by females) being black, with the five basal joints of the antennæ, the legs (except a black spot on the femora), the mouth, a heart-shaped mark on the head, the anterior margin, and a medial posteriorly dilated blotch on the thorax, orange-yellow; and the elytra yellowish-white, with five large, rounded, black spots upon each (Fig. 5). The

extreme varieties are almost entirely black (*Bothnicus*, Linn.), having often only the cordate mark upon the head (Fig. 7), and these are the most common: the intermediate specimens, chiefly males, have orange-coloured elytra with transverse black bands, varying in extent in different individuals, and sometimes assuming a maculated form (Fig. 6).

93. GONIOCTENA AFFINIS, Gyll. Ins. Suec. iii. 485, 28 (*Chrysomela*); C. O. Waterhouse, Ent. Monthly Mag. vol. i. p. 278.

Mr. Charles Waterhouse records the discovery by himself of an example of this species among some British *Coleoptera* belonging to Mr. Cocking of Norfolk, and which, as he is informed, was found among some sweepings belonging to Mr. Winter, captured by the latter, most probably in the Norfolk fens. *G. affinis* appears to resemble *G. 10-punctata*; but to be easily distinguished by its black thorax, which is less contracted in front; and by the interstices of its elytra being destitute of punctures. There seems to be a variety with the tibiæ and sides of the thorax reddish.

94. TRICHOPTERYX FUCICOLA, Fairmaire; Wat. Cat.; Rev. A. Matthews, Ent. Monthly Mag. vol. i. p 174.

Mr. Matthews records the occurrence in England of this species, formerly taken only in Ireland and on the Continent. It appears to be found on the sea-shore, as its name suggests.

From Mr. Matthews' remarks (*loc. cit.* p. 247) it appears that he is now convinced that the superficial sculpture of the upper side, especially of the thorax, is the only safe diagnostic character in the genus *Trichopteryx*; and it will be seen

from the following additions to our list, &c., that this newly acquired light has been turned to good account.

With reference to the *Trichopterygidæ* generally, I may remark that Mr. Matthews (who has had many of the continental collections of this family sent for his revision) informs me he has spent the greater part of this year in making complete dissections of all the genera, even to the most complicated structure of the ligula and labium.

It is, surely, a good cause for satisfaction, that—after the comparative failure of Erichson, Gillmeister, and other distinguished continental Coleopterists—it should have been reserved for our countryman to succeed in operations of so exceedingly delicate and difficult a nature.

95. Trichopteryx ambigua, Rev. A. Matthews, Ent. Monthly Mag. vol. i. p. 177 (described).

"Castaneous-brown, oblong, rather broad, very convex, "clothed with a golden pubescence, covered with rather "large tubercles disposed in interrupted transverse rows, "with the interstices rather deeply alutaceous; legs and "antennæ long and stout." In the male the thorax is slightly contracted towards the base.

Mr. Matthews states that this new species is very rare in Europe, but appears to be quite common in America, where many specimens were taken in various parts of the country by the late Dr. Schaum:—he has hitherto seen only two British examples, taken by himself or his brothers in Oxfordshire.

96. Trichopteryx dispar, Rev. A. Matthews, Ent. Monthly Mag. vol. i. p. 176 (described).

"Castaneous-brown, rather depressed, clothed with a

"silvery pubescence, rather thickly covered with small dis-
"tinct tubercles, arranged in curved rows, with the inter-
"stices deeply and elegantly alutaceous; the head and
"thorax rather narrow, and the elytra in the female (?) very
"much dilated towards the apex."

Mr. Matthews remarks that this species appears to be rare, though widely dispersed; having been found near London by Mr. Waterhouse, in Devonshire by Mr. Wollaston, and near Gumley and in Oxfordshire by himself. One of his specimens, supposed to be the male, differs in no respect from the rest, except that the elytra are contracted towards the apex.

97. TRICHOPTERYX KIRBII, Rev. A. Matthews, Ent. Monthly Mag. vol. i. p. 175 (described).

The diagnostic characters given by Mr. Matthews for this new species (of which two specimens, male and female, were taken by that gentleman under damp litter in the Norfolk Marshes, in April, 1863) are as follows:—"Ovate, very
"convex, clothed with longish yellow pubescence, covered
"with small distinct tubercles, closely arranged without
"order, with the interstices deeply alutaceous, with a long
"deep transverse fovea on each side of the thorax extend-
"ing from the posterior angle nearly to the scutellum;
"antennæ piceous; the basal joints of all the tarsi enlarged
"in the male."

98. TRICHOPTERYX LATA, Motschulsky, Bull. de Moscou, 1845; Rev. A. Matthews, Ent. Monthly Mag. vol. i. p. 174.

From Mr. Matthews' note it appears that this species is mixed in collections with *T. fascicularis* and *T. grandicollis*; from the former of which it may be known by its

long brown pubescence and wide sub-quadrate shape, and from the latter by its want of erect setæ. Besides these differences it appears to be distinguished by its large size, sub-æneous colour, long legs and antennæ (the latter being entirely pale yellow), and the sculpture of its prothorax, which is strongly tuberculate, with the interstices faintly alutaceous.

Mr. Matthews states that it may be found in the summer, not uncommonly, in heaps of dead leaves.

99. Trichopteryx bovina, Motsch. Bull. de Mosc. 1845; Rev. A. Matthews, Ent. Monthly Mag. vol. i. p. 174.

Mr. Matthews states that this species differs from *T. sericans*, with which it is usually associated, in its deep black colour, ovate shape, and much shorter antennæ; also in the peculiar sculpture of its prothorax, which is covered with small distinct tubercles disposed in wavy rows, with the interstices distinctly and elegantly alutaceous.

It appears to be common, and found (as its name implies) beneath cow-dung, though seldom met with elsewhere.

It is needless for me to add that the compound microscope is required to "bring out" sculpture in these minute insects.

100. Trichopteryx picicornis, Mann. Bull. Mosc., 43, 84; Rev. A. Matthews, Ent. M. Mag. vol. i. p. 175.

Mr. Matthews remarks that this species (by no means rare) is also usually included under the name of *T. sericans;* and that it is easily distinguished from all its congeners by its oblong, parallel, and depressed shape, long legs and antennæ, the dilated joints of its four anterior tarsi, and the sculpture of its prothorax, which is not tuberculate, but simply alutaceous.

101. TRICHOPTERYX BREVIS, Motsch. Bull. de Mosc. 1845, 533; Rev. A. Matthews, Ent. Monthly Mag. vol. i. p. 175.

Mr. Matthews, in introducing this species, remarks that it is of much rarer occurrence than, though generally confounded with, *T. pygmæa*, to which it bears no resemblance except in size. *T. pygmæa* appears to be parallel in shape throughout, very black, without tubercles on the prothorax, and with the basal joint of the anterior tarsi dilated; while *T. brevis* is clothed with a pale brownish pubescence, and its thorax is dilated towards the base, with the sides somewhat rounded, and covered with distinct tubercles prettily arranged in wavy rows, the interstices being deeply alutaceous: its head, also, is ornamented with tubercles in perfectly straight rows. It further differs from *T. pygmæa* in having the sides of the elytra strongly margined, the apical joint of the antennæ obtuse, and the anterior tarsi simple.

102. PTENIDIUM TURGIDUM, Thomson, Öfv. af Vet. Ac. Förh. 1855, 340, 2; id. Skand. Col. iv. 110, 3; Rev. A. Matthews, Ent. Monthly Mag. vol. i. p. 175.

One specimen of this species was taken by Mr. Waterhouse near London, in 1862, and Mr. Matthews has met with another example in the collection of the late Mr. Griesbach.

P. turgidum appears to be equal in size to *P. apicale*, and to be known from its ally, *P. Gressneri*, by the dilated sides, and four small equi-distant foveæ near the basal margin, of its prothorax, and also by the very obtuse apex of its elytra: from the rest of the genus it seems to differ in its

obtuse and exceedingly convex shape, and the shining red colour of its whole body.

103. Lathridius testaceus, Steph., Wat. Cat.
cordaticollis, Aubé, Ann. de la Soc. Ent. de Fr. 1852.

Mr. G. R. Crotch remarks (Ent. ii. 179, 115) that these insects are identical; and that the Stephensian name, being accompanied by a figure and good description, must of course stand.

104. Lathridius filiformis, Gyll., Wat. Cat.; M. Young, Ent. Monthly Mag. vol. i. p. 260.
elongatus, Murray, Cat. Col. Scot., *nec* Curtis.

Mr. Morris Young records the capture of this species by himself at Paisley, remarking that the few British specimens have come mostly from Devonshire.

It appears, also, that the *L. elongatus* of Murray's Scotch Catalogue is recorded on the authority of a former capture by Mr. Young of this species.

105. Corticaria curta, Wollaston, Ins. Mad. 187; id. Cat. Mad. Col. 65; Cat. Can. Col. 149; J. A. Brewer, Proc. Ent. Soc. Lond. 6 Feb. 1865; Ent. Monthly Mag. vol. i. p. 244 (*truncatella*, Mann.)

Mr. Brewer has captured this species on the sea-shore, at Worthing, and considers it to be *C. truncatella* (Mots.), Mann., in Germ. Zeits. v. 59 (1844), on the authority (I believe) of types in the British Museum. I am informed, also, that Mr. Brewer's specimens agree with the insect known to French Entomologists by that name.

As, however, they certainly do not agree with the description of *C. truncatella* (loc. cit.), I record them under the

name of *curta*, Woll., with which they are certainly identical, both as regards description and types sent to me by Mr. Wollaston.

The insect has long remained un-named in most Metropolitan Collections, and is apparently common on the South coast, abounding at Seaford at the roots of grass, &c. It much resembles exceedingly small specimens of *C. fuscula*, and has usually the head and thorax light red, though the whole insect is sometimes of that colour.

E. C. Rye.

284, King's Road, Chelsea, S.W.
14*th November*, 1865.

HYMENOPTERA.

Notes on Hymenoptera.

By Frederick Smith.

If the reader were to refer to the pages of "The Entomologist's Annuals," for the last eleven years, he would observe, that year after year we are adding to the list of the British Aculeate Hymenoptera.

It is true that many discoveries have to be made before our list approaches, in the number of both genera and species, that either of France or Germany. Both those countries possess, independent of the advantages of climate, a much larger number of hands labouring in the vast field of the Aculeate Hymenoptera. If we look over a list of the Hymenoptera of Europe, we notice many genera, that are pretty generally scattered over most parts of the Continent, altogether wanting in the British list; this, to some extent, will probably always be the case; but of those genera, common to England, as well as to the Continent, it will be found, that year by year, slowly, but I trust certainly, we are approaching the Continental standard.

In an old list of the British Hymenoptera I find the species, *Scolia quadricincta*, *Pelopæus spirifex*, *Sphex flavipennis*, *Larra ichneumoniformis*, and *Bembex octopunctata*, all belonging to the tribe of the Fossores; *Systropha spiralis*, *Melitturga clavicornis* and *Xylocopa violacea*, belonging to the tribe Anthophila, enumerated

as British insects; all these genera are now expunged from our list, one or more, I trust incorrectly so; not one of these species has been captured in England during the last thirty years, but many localities, frequented by Entomologists of former days, may not have been explored by collectors of the present day; be this as it may, it will, no doubt, be desirable to wait until some recent capture warrants any of the above insects being again incorporated in the British list. There are many extensive portions of inland country, as well as long ranges of our coasts, but very slightly explored; many species, new to our Fauna, may be reasonably expected to be discovered, both on the north and south Devon coasts; Braunton Burrows would surely yield species new to our fossorial list, whilst at Torquay,—the Montpellier of England,—surely we may confidently reckon upon the discovery of one or more of the insects that I have enumerated above.

If the coasts of Devon were thoroughly investigated, I feel assured the task would amply repay the Hymenopterist who undertook such a tempting excursion. These are not, however, the only unexplored localities; portions of the south-eastern coast have never been well hunted over by competent Hymenopterists, and I feel fully pursuaded, that we have a very imperfect knowledge of the bees of Scotland and its islands. If any of our younger Entomologists are deterred from turning their attention to the Hymenoptera, under an impression, that our Fauna of that order is pretty well known; let the experience of one who has turned his attention to these insects during the last thirty years, undeceive him; each succeeding year more thoroughly convinces me, that there is no order of insects, in which more important discoveries are likely to be made. I feel assured that whenever a young and zealous band of Hymenop-

terists shall spring up, the truth of my opinion will be confirmed.

Of all the genera to which the foregoing remarks would apply, as affording direct proof of their truth, that of *Formica* has perhaps, during the last few years, furnished the most ample testimony. Year after year, fine additions to the British list are being made; this is extremely gratifying, because a hope may be indulged that many, whose studies will not admit of their entering upon the vast field of the Hymenoptera, may be induced to direct a portion of their attention to the *Formicidæ;* if they can but once be persuaded to do so, there is no fear of any true lover of Entomology ceasing to investigate the Ants, undoubtedly the most intelligent and interesting Family in the entire range of the World of Insects; nowhere do we find such endless variety of form, and, whilst their economy is varied to an illimitable extent, their instinctive sagacity surpasses that of all other members of the class Insecta; time, I doubt not, will prove the truth of my ratiocinations.

In 1835, the British list of the *Formicidæ* consisted of eight species of the genus *Formica*, seven of *Myrmica*, and one of each of the genera *Myrmecina*, *Stenamma* and *Ponera;* such was the list at the time of the publication of the first volume of "The Entomologist's Annual;" the following is a complete list of the species at present known:—

List of the British Formicidæ.

Genus Formica.	Genus Formica—*cont.*
Formica rufa.	,, gagates.
,, congerens.	,, nigra.
,, sanguinea.	,, umbrata.
,, exsecta.	,, aliena.
,, cunicularia.	,, flava.
,, fusca.	,, fuliginosa.

Genus Tapinoma.

Tapinoma erratica.
„ polita.

Genus Ponera.

Ponera contracta.
„ punctatissima.

Genus Myrmica.

Myrmica ruginodis.
„ scabrinodis.
„ lævinodis.
„ sulcinodis.
„ lobicornis.

Genus Tetramorium.

Tetramorium cæspitum.
„ lippula.

Genus Leptothorax.

Leptothorax acervorum.
„ Nylanderi.
„ unifasciata.
„ simillima.

Genus Stenamma.

Stenamma Westwoodii.

Genus Diplorhoptrum.

Diplorhoptrum fugax.
„ molesta.

Genus Pheidole.

Pheidole lævigata.

Genus Myrmecina.

Myrmecina Latreillii.

In 1865, our list will be found to consist of twelve species of the genus *Formica*, two of *Tapinoma*, and two of *Ponera*, to which must be added thirteen species of *Myrmicidæ*, amounting in the aggregate to thirty-one species, being an increase of thirteen since the publication of the first volume of the Annual.

In the above list I have included *Pheidole lævigata*, undoubtedly an imported species, introduced within a very recent period, but so firmly has it established itself, in some parts of the metropolis, as to have become a household pest, whilst at the same time it is an ant common to the majority of hot-houses, so that it may be considered as securely naturalized as the more common *Diplorhoptrum molesta*.

Formicidæ.

Last year I had the pleasure of recording the discovery of a most interesting species of ant, the *Formica exsecta*: only

a few specimens were at that time taken, but in August last, I had an opportunity of revisiting Bournemouth, the place of its first capture and am now enabled to give some account of the habit of the species.

Formica exsecta is by no means rare, at, and in the neighbourhood of Bournemouth, although it does not appear to be very widely diffused; probably its range will prove not to extend beyond the extensive heaths in that neighbourhood, which are being fast brought under cultivation; I found a single nest on a small isolated piece of common, at the side of Poole Harbour. The nests of this ant seldom exceed ten or twelve inches in diameter at their base, from which they rise in a conical shape to a height of eight or ten inches; the materials of which the nests are built are a mixture of dried grass, cut up into small pieces, and usually some small fragments of twigs; but, if the nest is situated near to fir trees, the needles of the fir are substituted. The nests are very commonly found in unsheltered situations, on open sterile heaths, and in plantations of fir; they are very populous, and the worker ants of this species are extremely ferocious, their bite is sharp, and their hold so tenacious, that in removing them from the face or hands, the body frequently parts from the head. In the month of August not a single male or female is to be found; in vain did I investigate, with the greatest care, numerous nests, in the hope of at least securing the female. The sexes would no doubt be found plentifully about the beginning of June; a visit to these nests, in the early part of the season, would probably be the means of discovering some interesting species of myrmecophilous Coleopteron not yet found in this country. I trust some of our Coleopterists will be induced to follow up this hint.

Formica congerens.—This is the common wood-ant at

Bournemouth; I have not yet found *F. rufa* there. Mr. Dale observed some small moths in the nest of this ant, but was not so fortunate as to capture one, probably this was the *Tinea ochraceella;* as the nests of this species of ant are numerous, it would probably repay any Lepidopterist for the annoyance to which he would be necessarily subjected in searching for the little moth; some of the nests of *F. congerens* are as much as five feet in diameter at the base, and are elevated from two to three feet, the colonies being quite as populous as those of *F. rufa.*

Formica gagates.—This species is now for the first time added to the British list; a few specimens were taken by my son, but the discovery was not made until we had returned to London from Bournemouth; it is a species widely distributed on the Continent, being found in France, Germany, Prussia, Switzerland, Austria and Hungary. The species most closely resembles *T. fusca,* but the workers are larger, blacker, and more shining; and the abdomen has a quantity of erect rigid hairs; the following is a description of the worker:—

Worker.—Length $2\frac{1}{4}$—3 lines. Shining black, with the mandibles, antennæ and articulations of the legs rufescent; the tibiæ and femora piceous; abdomen shining and sprinkled with a number of erect hairs; the scale of the petiole truncate above and slightly emarginate.

Formica aliena.—This species was established by Foerster, in his Monograph on the *Formicidæ* of the German provinces of the Rhine; Dr. Nylander doubts its being distinct from *F. nigra,* but I am of opinion that it is a good species, Dr. Mayr also considers it to be so. Only workers have been taken in England, to my knowledge; the other sexes may, however, be mixed with those of *T. nigra* in collections that I have not seen; I think it probable that this is the case.

It is very like *T. nigra*, but it has a longer and narrower head, the antennæ are not hairy, neither are the legs. It is a burrowing ant, and may be found on the sand hills at Deal, as well as at Bournemouth.

Tapinoma erratica.—This usually rare species of ant is plentiful on the open heaths to the west and north west of Bournemouth; it burrows in the flat bare spaces that occur among the furze bushes, where the turf has been pared off; in August, only pupæ and larvæ of workers were found; it may also be taken at Weybridge in similar situations.

Ponera contracta.—This very local insect was taken by Mr. David Sharp in Headley Lane, Mickleham; it is a species which I never had the good fortune to capture; Dr. Power has taken it at Brighton, and also at Merton, in Surrey.

Myrmica lobicornis.—I believe not more than half-a-dozen specimens of this very distinct species are to be found in British collections; those taken by the late Mr. Curtis, and also by Mr. Dale, in Scotland, were the first discovered in this country. I found a locality for the insect at Lowestoft, Suffolk, and took four specimens of the female in 1859. During the past season, Mr. Rye captured a worker at Seaford, in Sussex, where it was apparently plentiful, but not being at the time aware of the rarity of the species, he neglected to secure more examples.

Myrmecina Latreillii.—This is one of the rarest ants that occur in this country; the male was first discovered by Mr. Curtis, in 1829, near Black Gang Chine, in the Isle of Wight, where it has has been subsequently taken by other Entomologists; it is not unlikely to be found in most parts at the back of the island, having myself found it both at Luccomb and Shanklin; the female was also first taken by Mr. Curtis, it has also occurred at Lulworth Cove, Dorset,

and I have taken it in Kentish Town; the worker had not been discovered in England until September last, when Mr. Sharp found a nest at Mickleham. An exquisite figure of the male will be found in the sixth volume of Curtis's British Entomology, and one of the female illustrates a paper by the same author, in the twenty-first volume of the Linnean Transactions; the following is a careful description of the worker:—

Length $1\frac{1}{4}$. Black; the mandibles, clypeus, sides of the face before the eyes, the antennæ, the truncation of the metathorax, the peduncle beneath, the apex of the abdomen and the legs, reddish-yellow; the body thinly sprinkled over with erect bristly pale hairs; the abdomen very smooth and shining. The mandibles toothed on their inner edge, and striated at their base; the clypeus with its anterior margin deeply emarginate, forming a tooth at each angle of the emargination; the antennæ elbowed at their base; the head is longitudinally wrinkled above, or rugose. The scape nearly as long as the head; the flagellum clavate; the club consisting of three joints, the apical joint longer than the two preceding, and acuminate at the apex, it is also much thickened in the middle. The thorax irregularly, longitudinally and deeply wrinkled, or striated; the metathorax armed with two short, stout and acute horizontal spines; the truncation of the metathorax is smooth and somewhat concave; the peduncle coarsely rugose. The abdomen is widest beyond the middle.

The worker of *Myrmicina* most closely resembles that of *Tetramorium cæspitum;* the resemblance is only general, because in no minutiæ do they agree, but it might be overlooked by any person not intimately conversant with the specific differences of the two insects.

Myrmecina has much thicker and shorter antennæ than *Myrmica*, its legs are also shorter, stouter and uniformly red.

On the Continent this species has been taken at Vienna, in the Tyrol, in Ukraine, Nassau, Wiesbaden, Bonn, Aix-la-Chapelle, in Rhenish Prussia and also in Italy.

In October last, I took a large number of *Formicidæ* at Lynmouth and Ilfracombe, but not a single species of any rarity occurred; it was certainly too late in the season to form a correct estimate of the *Formicidæ* of that charming portion of North Devon; but I may record a very remarkable departure from the normal habit of *Formica fuliginosa* observed there—a species that usually burrows in old decaying trees or posts; near Ilfracombe, I observed this ant inhabiting fissures in the rocks, on the top of one of the highest Torrs, and also on Carntop; in the lanes near Coomb Martin, I found it inhabiting burrows it had formed in the mud with which the walls at the roadside are apparently built.

In France, twenty-eight species of the genus *Formica* have been discovered, and about the same number also in Germany; at this time, the British species of that genus only amount to twelve; the Continental list of the *Myrmicidæ* contains about twenty-eight species, whilst the British one, only enumerates sixteen; this discrepancy in numbers ought to arouse English Hymenopterists to renewed vigour, and, if my hope prove successful, of enlisting the co-operation of Coleopterists, and also collectors of other orders, to turn their attention to these insects, I have no fear of bringing up the list of British ants to a close approximation with the Continental standard.

Fossores.

As might be expected, in so fine a summer and autumn as we have this year enjoyed, fossorial Hymenoptera have been more plentiful than in any season since 1860; but still their numbers are very small, when compared with those of years previous to the above date; no one but an Hymenopterist can form a correct idea of the present scarcity of Hymenopterous insects generally, as compared with former years. The *Pompilidæ* appear to me to have been more diminished than any other family; in the most favourable situations, and under the most favourable circumstances, but few are to be found; a period of some years, I fear, must elapse ere we shall again see these interesting insects in their former abundance. From the north, I have the testimony of Mr. Bold, who says, "Of Fossores, I have only taken the enclosed (*Gorytes 4-fasciatus*) and *Mimesa bicolor*." This refers to the entire season.

Methoca ichneumonides.—Of this rarity, two females and one male were taken at Bournemouth. This insect is the only British representative of the extensive family *Thynnidæ;* the metropolis of the genus appears to be Australia, in which country, Mr. Bakewell found them parasitic upon Lepidoptera; we know not, however, if all the species are so; it would be a most interesting discovery to ascertain upon what insect our *Methoca* is parasitic; it is a widely distributed insect, having been captured, to my knowledge, in the Isle of Wight, in Hampshire, in Essex, Surrey, Suffolk and Dorsetshire.

Pompilus rufipes.—This elegant species has been taken in some numbers, on the coast near Poole, where, for the first time, I observed it to prey upon spiders.

Evagethes bicolor.—Of this extremely local species, a fine

series of both sexes were taken at Bournemouth; it may be found on most of the heaths in that neighbourhood; it is extremely active, and somewhat difficult to capture.

Mellinus arvensis.—This is one of the most abundant members of the tribe Fossores; its usual habit has been repeatedly published; it preys upon flies, and may be commonly observed resorting to the droppings of cows, in search of its prey; it is one of the most wary and talented of all its fraternity; were it at once to attempt, by a sudden leap, to dart upon its victim, ten to one it would fail to secure it; no, it does no such thing, it wanders about in a sort of innocent, unconcerned way, amongst the deluded flies, until safe opportunity presents itself, when its prey is taken without any chance of failure; such is its ordinary mode of proceeding. At Bournemouth, the flies are more active, more difficult to capture, or have they unmasked the treacherous *Mellinus?* and it is found necessary to adopt some fresh contrivance in order to accomplish its ends? if so, it is not deficient in devices. I noticed once or twice, what I took to be a dead specimen of *Mellinus*, lying on patches of cow-dung; but, on attempting to pick them up, off they flew; I at once suspected the creature, and had not long to wait before my suspicions were confirmed. Another, apparently dead fellow, was observed; and there, neither moving hand or foot, the treacherous creature lay, until a fine specimen of a blue-bottle ventured within its grasp,—active as any puss, t *Mellinus* started into life, and pounced upon its victim.

Vespidæ.

So many reports of the scarcity of wasps have appeared, and so many private communications have I received to the same effect, that we may conclude (I think, correctly) that any counter report is only a slight exception to a general

rule. No one is surprised at these reports, because they all indicate a feeling of astonishment that such should be the case, when the appearance of females in unusually large numbers in the spring is at the same time referred to, in almost every report; my own observations coincide precisely with these notices. Mr. Stone, our most eminent Vesparian, has published his report, and it proves to be confirmatory of the general character of observations that have appeared upon the subject. From Newcastle, Mr. Bold writes, "Female wasps were exceedingly abundant in the spring, but they suddenly disappeared about the second week in May." I have a similar account from Mr. H. Doubleday, of Epping.

Of the few notices that I have seen of an opposite experience, one is before me from Mr. C. G. Barrett of Haslemere, who writes, "Wasps have been sufficiently abundant here all the season. In the early part of summer they frequented the shops in swarms; although that has not been the case so much lately, it has only been from the abundance of fruit of all kinds, which has furnished them with plenty of food. They have attacked the apples, pears and plums, and have abounded all the autumn on the blackberries; the crop of mulberries has been almost entirely destroyed by them; they have been a complete nuisance at the sugar placed on trees to attract moths. At the same time hornets have been vastly more common than I recollect to have seen them before."

This latter report shows, that, although the scarcity of the *Vespidæ* has been very general, it has not been universal; we are, however, at a loss to understand the cause of this; their scarcity cannot be attributed to prevailing wet or cold weather; the spring was dry and warm. If I were to seek for the cause in such facts as have presented themselves

to myself, I should attribute the scarcity to a prevailing epidemic, but somewhat local in its visitation. Last year wasps abounded at Bournemouth, I never observed more in a given locality; this was in the month of August, at the end of the month they suddenly disappeared in a great measure; their nests were numerous, I therefore dug up several; the majority contained combs of dead brood, some in such a state of putrefaction, that larvæ of *Silphidæ* were attracted, and were feeding upon them; this was, I imagine, just a case of foul-brood amongst wasps; an infection well-known to bee-keepers as most fatal in its results.

During the present season, I have not found a single wasps-nest, and have not seen more than twenty wasps, and it must be borne in mind that I passed a whole month in a most favourable locality in Hampshire,—the month of August, when these insects usually appear in great numbers. I noticed about half-a-dozen in North Devon, at Lynmouth, in the month of October, on days so suitable, and in situations so favourable, that if a single member of the fraternity existed in that county, I might have expected to find it there.

One of the most local wasps occurring in this country is the *Eumenes coarctata;* this was found in considerable numbers at Bournemouth, flying over, and occasionally alighting upon the flowers of the heath; many specimens of the female were obtained by watching spots where the soil was suitable for building their little globular nests, which they usually attach to the twigs of the Heath.

Apidæ.

Notwithstanding the two fine summers that we have enjoyed in succession, many species continue to be extremely scarce: species of *Andrenidæ*, that were formerly most abun-

dant round London, appear to be altogether gone from the locality. Mr. Bold writes, "solitary bees appear to be utterly extinct, or nearly so; the only ones I have seen during the whole summer have been a straggling *Halictus* or two; brown *Bombi* continue scarce, but *B. lucorum*, *lapidarius*, and *hortorum* are rather plentiful"—as regards the appearance of the spring species of *Andrenidæ*, my own experience tends very much to confirm Mr. Bold's observations, but only as regards the majority; some species were tolerably numerous last spring, *Andrena Trimmerana* is an example. The summer species appear to have recovered, in a considerable degree, the enormous reduction of their numbers which took place in 1860-61.

Sphecodes subquadratus.—This extremely local species was taken in some numbers at Birch Wood in July last; since the year 1849, I had not met with this insect; the capture of a rare bee is now so much a novelty, that any new locality for one is well worthy of being recorded.

Halictus prasinus, a very local species, but extremely abundant at Bournemouth and its vicinity; I never saw an example from any other locality; August is the time of its appearance; the species does not appear to be known on the Continent.

Tenthredinidæ.

Crœsus septentrionalis.—In the first volume of the "Entomological Magazine," p. 313, is a notice of the larva of this insect; Mr. E. Doubleday there records the appearance of the larvæ in abundance on the hazel in July and August; they were so numerous, that young hazels were nearly stripped of their leaves by them; but, he adds, although the larva are sometimes so abundant, yet I have rarely found the perfect insect. In the beginning of August last, namely the

sixth, I found the larvæ in some numbers feeding upon the alder, near Poole, in Dorsetshire; the larvæ all fed up by the 20th of the month, and buried themselves in mould in a flower-pot; about the middle of September they began to appear in their imago state, and by the end of the month all were developed; I succeeded in breeding twenty-two specimens.

In the work above referred to, a coloured figure of the larva is given, and which is said to be one of extreme accuracy; as this differs materially from those which I found, I add the following description:—

Description of the larva of *Crœsus septentrionalis*.—The caterpillar, when full grown, one inch in length:

Livid-green; the head black; ten narrow transverse stripes on the back; with eleven round black spots on the sides, and a double row of ovate ones outside the black spots; a triangular black spot above, at the apex of the body; tinted with yellow towards the head, and also towards the apex. With three pairs of articulated legs, and six pairs of fleshy prolegs.

In the "Annual" for 1864, I have reported the capture of *Hemichroa Alni*, in company with *Eriocampa ovata*, and I there stated that all the examples that I had seen of the former insect were males; such I had really believed them to be; the fact of this species being furnished with two setiferous appendages, which in some species characterize the males, misled me; my friend Mr. M'Lachlan detected the error; I therefore take this opportunity of rectifying as far as possible this egregious oversight. All the specimens of *Hemichroa* that I have seen are females; this leaves the problem as to the male of *Eriocampa ovata* just where it was; the female is a common insect in this country as well as on the Continent, but no one appears to know the male.

In 1864, I collected a large number of the larvæ of *Eriocampa*, and in the spring of the following year bred as many as fifty flies, but all proved to be females. How true indeed are the words of the wisest of Israel's kings, "*Hardly do we guess aright at things that are upon earth, and with labour do we find the things that are before us.*"

LEPIDOPTERA.

Notes on British Lepidoptera (excepting Tineina) for 1865.

By H. G. Knaggs, M.D.

A month or two since there seemed to be but little prospect of any addition to our fauna, upon which to base the structure of an "Annual" paper on British Lepidoptera. Things looked dismal enough, when—perhaps on the principle that when matters seem getting to their worst, they suddenly begin to mend—we became cognisant of the presence in our little isle of a brace of novelties, which, together with the long talked-of *Boarmia perfumaria*, have come to my rescue in the critical emergency.

True, I might have satisfied myself by falling back on "Larvæ detected, and Local species captured in 1865," &c.; or have written volumes on the lives, doings and things said about those marvels of the age, the Humming-bird and Death's-head hawk-moths, which appear from some wise cause unknown to have started forth, far and wide, in the most prodigal numbers, specially, as I take it, for the double purpose, and, failing more interesting topics, of satisfying the cravings of a hungry press, and exciting the wonder and admiration of the hitherto non-entomological million.—Still, the Annual paper, without any new species to speak of, would have been very like "Beer brewed without malt,"—a very insipid affair and the aforesaid accessions are, therefore, as welcome as they are opportune.

The discoveries, during the past season, of hitherto undetected larvæ of our native species, for the most part brought to light by the patient toil of Mr. William Buckler and the Rev. John Hellins, are both numerous and of an unusually interesting nature: an evidence of progress, in this most charming branch of the study of Lepidoptera, which ought to rouse all true Entomologists to renewed exertions.

Of captures too there has been no lack in quantity, nor has the quality been at all below the average. *Vanessa Antiopa*, *Argynnis Lathonia* (and, it is hinted, even *Polyommatus Hippothoë*) have turned up here and there. *Chærocampa celerio* and *Deilephila livornica*, the former in really respectable numbers, and—what is still more satisfactory—accompanied by its larva, have also put in appearances; *D. galii* has, evidently, not yet shared the fate of its congener *euphorbiæ*, and the scarce *Sesia spheciformis* and *S. chrysidiformis* have both been met with. *Notodonta bicolora*, this time to the number of six, has re-appeared in North Staffordshire. A pair of *Dianthœcia Barrettii* has fallen to the lot of Mr. Edwin Birchall, and we have no proof that *D. albimacula* has not occurred this season, until some thirty Dianthœcious pupæ, collected near the spot of Mr. Lacy's recorded capture, shall have yielded forth their imagos. *Xylomyges conspicillaris* and *Acronycta alni* have occurred, though very sparingly as usual. *Glæa erythrocephala* has been taken, for the second time, near St. Albans. *Cucullia gnaphalii* in the larva state near Brighton. *Catocala fraxini* has been noticed in the Isle of Wight. We have not yet seen the last *Erastria venustula*. A new locality has been recorded for *Micra ostrina*, and Mr. Horton's *Toxocampa craccæ* bids fair, ere long, through the liberality of that gentleman, to grace the cabinet of many a zealous collector.

Ennomos alniaria would seem to have taken up its head-

quarters at Gosport, no fewer than three specimens having been recorded from that neighbourhood. *Acidalia rubricata* has been bred from the egg. *Sterrha sacraria* has unexpectedly gladdened the hearts of several collectors; and one obliging and accommodating female, of this delicately pretty insect, has furnished the eggs wherewith, in the hands of the Reverend John Hellins, not only has the natural history of this beautiful creature been secured, but also a series of wondrously elegant and bewilderingly variable specimens—varieties hitherto quite unknown and hardly conceivable—has been duly produced to puzzle and amaze us.*

Eupithecia campanulata, so recently added to our list by the Reverend H. Harpur-Crewe, has been found to inhabit Worcestershire. *Camptogramma fluviata*, not long ago a rarity, has turned up not uncommonly this autumn; and *Lithostege griseata* has again rewarded Mr. Brown.

Madopa salicalis has been taken by the indefatigable Mr. Barrett of Haslemere. The beautiful *Nascia cilialis* has put in a dual appearance near Cambridge. *Diasemia literalis* appears to have shown itself in a new locality; besides which, *Crambus fascelinellus* and several *Tortrices* of note have in due course fallen to the net and pin.

Nor must I close these introductory notes without reminding my readers of the probability that the season, which, ere this paper has become a public fact, will already be upon us, is destined to prove a glorious one for the collector of the period—a season which, two years ago, in the pages of the then little Annual, I ventured to predict, would be productive of pleasurable days to the votaries of British Entomology.—So may it be!

* A valuable paper on the subject of these extraordinary varieties, by Mr. M'Lachlan, will be published by the Entomological Society of London.

In entering upon the discussion of the results accruing from the labours of the past season, I purpose following the programme of the preceding Annual, and shall commence with a few notes on points of interest which have arisen, passing on to the New species, Tables of local species captured, Larvæ discovered, &c.

Erebia Epiphron, Knock, and E. Cassiope, Fabr.

There has been from the time of Fabricius a decided tendency to consider these as distinct species; most authors recognising as a particular feature in *Cassiope* the absence of the white spots in the ocelli (*ocellis nigris cæcis*), and accepting it as a sufficient and constant character by which the two could, and can, be separated. Be this as it may, modern authors appear to have arrived at the conclusion, that they are identical—merely varieties—and our old familiar name of *Cassiope* has been sunk, in Dr. Staudinger's Catalogue, and also in the Supplement to Mr. Doubleday's Synonymic List, before the *Epiphron* of Knock's "Beitrage zur Insektenkunde," the latter having about ten years' priority over the Fabrician name.

Cœnonympha Davus, Fabr., and C. Typhon, Haworth.

Attempts have been made at various times to secure for Haworth's *Typhon* the rank of a species, and certainly his insect appears, to my fancy, distinct enough from the *Davus* of Fabricius—the *Rothliebii* of continental writers—the *Davus* of our northern counties; but the variations are such as to cause our high authorities to pause before admitting their distinctness. This interesting problem will, doubtless, be satisfactorily cleared up at no distant period by careful comparison of the respective larvæ; much attention having already been bestowed upon the subject during the

past season, and several descriptions having been penned by both Continental and British authors. These descriptions, so far, agree pretty closely in the main points; but then none of them, I believe, have reference to the larva of *Typhon*.

Annon Sesia philanthiformis, Laspeyres?

The depths of the synonymy of the little clearwing, which in 1860 was added to our lists, as an inhabitant of our West coast, and for which the specific names of *philanthiformis*, Lasp., and *muscæformis*, Bork., have been respectively suggested, have not as yet, it would seem, been thoroughly fathomed.

Respecting *philanthiformis* and its allies, even Continental authors themselves do not appear very clear. For instance, according to Dr. Staudinger's Catalogue:—

Muscæformis, Hufn. = *Philanthiformis*, Lasp.
Muscæformis, Bork. = *Empiformis*, Esper.
Muscæformis, H.-S. = *Annellata*, Zell.
Philanthiformis, Ramb.? = *Corsica*, Stdgr.
Philanthiformis, Led. = *Braconiformis*, H.-S.
Philanthiformis, H.-S. = *Bibioniformis*, Esper.

} All the latter (according to Staudinger) being good species.

So that thus, without going further into the subject, the reader will find that the two names *philanthiformis* and *muscæformis* have stood for no less than six distinct species, not one of which, at the present moment, bears the name of the latter.

As long ago as 1854, Dr. Staudinger pointed out in his pamphlet "*De Sesiis agri Berolinensis*," that *philanthiformis* was attached to the common ling; remarking "*præcertim in calluna vulgari cernitur*," but adding that it not rarely occurred elsewhere, where this plant did not grow. More recently, however, and subsequently to Mr. King's

discovery in this country, Dr. Staudinger has written very decidedly, in answer to Mr. Doubleday's inquiries, that the insect in question is *his Sesia philanthiformis* (meaning that of Laspeyres), and that it feeds in the roots of the common thrift (*Statice armeria*);* so that, doubtless, at the time he wrote his pamphlet "*De Sesiis*," he had himself confounded two insects under this name, a probability which is reduced to an almost certainty by the publication of a careful description of a so-called larva of *philanthiformis* by Dr. Assmuss, in the Stettin. Entom. Zeitung, 1863, p. 399, in which this species is positively asserted to feed in the roots of the common ling (bruyère).

Boarmia perfumaria, Newman.

This close ally of *B. rhomboidaria*, so long looked on as a cockney form of the last-named, at length takes its place as a species in the supplement to Mr. Doubleday's Synonymic List.

With respect to the perfect insect, Mr. Newman informs us (Entom. 246) that it is identical with the var. A. *rhomboidaria* of M. Guenée, who thus (he says) "distinguishes it from the normal form"—"*Un peu plus grande. Teinte des ailes plus cendrée, conice,† nullement jaunâtre. Ailes supérieures plus aiguës, et plus prolongées au sommet. Antennes a lames moins couchées l'une sur l'autre et peut-être plus longues.*"

The larva should certainly have been contrasted with M. Guenée's description, instead of with Mr. Stainton's highly condensed translation of the same. The differences in the larval state are slight and not very satisfactory—but

* See A. Libbach in Berlin Entom. Zeitschrift, iii. p. 79.

† The word "*conice*" (whatever it may mean) appears to have been substituted, probably by accident, for "*unie*."

the peculiar pertinacity with which (as Mr. Doubleday assures me) ivy (*Hedera helix*) is chosen by *B. perfumaria*, while *B. rhomboidaria* refuses to eat it, and inevitably dies if not supplied with other pabulum, undoubtedly indicates a singularity of constitution, which has had very much to do with the admission of this insect to the list above named: I am informed that *B. perfumaria* will eat privet; and that country *rhomboidaria* larvæ feeding on privet are large and dark, like those of *B. perfumaria*.

Acidalia mancuniata, mihi.

Respecting this little wave, its position, as has been already stated (Ent. Mo. Mag. vol. ii. p. 130), is intermediate between *A. subsericeata* and *A. straminata*, though it is more closely allied to the former than to the latter.

It is an easy job to *see* that *A. mancuniata* is a different insect from *subsericeata*, but it is excessively difficult to describe wherein the distinctions lie; the characters, especially of *subsericeata*, being so very inconstant.

The general form of the insect, particularly the proportionate shortness of all the wings and the rounded hind wings—rounded as in *A. straminata*—are perhaps the most persistent, and give to this *Acidalia* its peculiar *facies*.

It is with great satisfaction that, through the kindness of my obliging friend Mr. Buckler, I am enabled to publish his excellent description of the larva, which must afford a more conclusive proof of the distinctness of this species from *subsericeata* than could otherwise have been arrived at, and in so doing have availed myself of the Rev. H. Harpur-Crewe's description of the larva of *A. subsericeata*, and have, for the sake of comparison, placed them side by side as opposite :—

Larva of ACIDALIA MANCUNIATA, Knaggs.

By William Buckler, Esq.

(*Extracted from an unpublished MS.*)

Larva about $\frac{3}{4}$ of an inch long.

Body rugose, with a few minute short hairs.

Tapering gradually towards the head.

Head grey-brown, with a dark brown line on each lobe.

Ground colour of the body pale reddish-grey.

Dorsal line scarcely paler, very thin and enclosed by a broad brown line on either side, which gradually widens down to four-fifths of the segments and then contracts towards the segmental divisions, and at the widest portions on each side is a rather large spot or blotch of blackish-brown.

Subdorsal lines grey brown, very thin and double, with a blackish-brown oblong blotch on them about the same distance from the end of each segment as those on the dorsal region.

Larva of ACIDALIA SUBSERICEATA, Haworth.

By the Rev. H. Harpur-Crewe.

(*Extracted from the Zoologist*, 8732.)

Whole body rough, wrinkled, minutely studded with whitish tubercular spots, and sprinkled with a few short bristly hairs.

Slender, tapers considerably towards the head.

Head whitish, with a central black line.

Ground colour whitish-grey, back reddish.

Central dorsal line black, very slender and indistinct.

Subdorsal line same colour (black), but broader and more distinct upon the capital and anal segments.

Larva of ACIDALIA MANCUNIATA, &c.—*continued.*	Larva of ACIDALIA SUBSERICEATA, &c.—*continued.*
On the spiracular region a black brown line extends between the 10th and 13th segments.	*Spiracular lines* dull yellowish-white, puckered.
[The character opposite is entirely wanting in this species.]	On each side of the 10th segment, which is slightly enlarged, is a dull yellowish spot.
The four last segments appear paler than the others, as the dorsal line on them is enclosed only by thin brown lines, and the subdorsal lines on them also have no dark spots, excepting a slight indication of them on the 10th segment only.	*Anal segments* whitish.
Pupa, very slender, dark blackish-brown, the tail being curved backwards—it changed on the surface of the soil.	*Pupa*, mahogany brown, enclosed in a slight web among dead leaves.

At the time that Mr. Buckler received the two larvæ from which the above description was taken, he made the observation that they were *not in the least like* those of *A. subsericeata* sent to him, in October 1862, by Mr. Crewe, nor yet like others which he had in April, 1863; for the larvæ of *A. subsericeata*, though slightly variable, were all constant to one particular, viz., a pale yellowish or whitish mark on each side of the 9th segment; and the character of the markings was entirely different.

Mr. Buckler bred both: one was a cripple; the other, though slightly paler than the examples from which I took my description, has, as I make out from a careful drawing of it, the short wings and rounded hind wings of *A. mancuniata*. Mr. Hellins has also forwarded a specimen, bred from a

larva of the same type, for my examination, and although it is of a white colour and almost without markings—pretty nearly an albino in point of fact—the form is *exactly* that of the insect under consideration.

The following description is from the pen of Mr. Stainton:—

"MELISSOBLAPTES (?) CEPHALONICA n. s.

"*Alis anticis breviusculis griseis, venis saturatioribus, margine postico saturate griseo-punctato; capite albo.*
"Exp. al. ♂ 9—♀ 9½ lin.

"Head white, the frontal tuft protruding, as in *Melissoblaptes*, and concealing the short palpi of the male—the palpi of the female are short, drooping, the second joint being densely clothed with long scales, leaving only the extreme tip of the terminal joint visible; antennæ pale grey, the basal joint thickened and greyish-white.

"Anterior wings with the costa somewhat rounded (in the male specimen before me, these have almost the form of a flattened ellipse, though this peculiar shape is less marked in the female); grey, with the nervures darker, especially those between the end of the discoidal cell and the apex of the wing; hind margin spotted with dark grey. In the male specimen the costal portion of the wing has an ochreous tinge towards the base. Cilia pale grey, with the extreme tips a little darker.

"Posterior wings pale grey, somewhat transparent towards the anal angle, cilia paler grey.

"Thorax in front whitish-grey, then grey concolorous with the anterior wings.

"Legs pale grey.

"This singular insect was bred by Mr. Hind of York "from dried currants. We must therefore presume it to be "an importation, though possibly it may ere long be com- "pletely domiciled in this country.

"At a first glance, it puts one in mind of *Achröia grisella*, "though readily distinguished from it by the white head, "and veined anterior wings, but a closer investigation shows "that the clothing of the head and also the palpi are very "different from what we find in *Achröia*.

"Its similarity to *Melissoblaptes* in structure is very "great, especially in the male; the palpi of the *female* are "much shorter, and more thickly scaled than those of the "*female Melissoblaptes bipunctanus;* but the form of the "anterior wings is very different, and the markings are "quite distinct. All the three European species of *Melis-* "*soblaptes* have the two transverse lines, of which in our "*Cephalonica* we see no trace.

"One curious character is furnished by the abdomen; in "both the specimens before me it is very greasy—now "Professor Zeller observes of *Melissoblaptes bipunctanus*, "'that it is remarkable the imago does not suffer at all from "greasiness,' but I am not aware whether this applies also "to the other species of the genus.

"In habit *M.*? *Cephalonica* appears sluggish, certainly "not restless.

"I think it extremely probable that a new genus will "eventually have to be created for this new species, but I "defer doing so, until I have more specimens before me, and "an opportunity of examining the neuration of the wings.

"Mr. Allis kindly brought the specimens up to London "in the summer for my examination: one is now in his "collection, the other in the collection of Mr. R. Hind."

Although Mr. Stainton has modestly included this under the category of imported species, it appears to me that the interesting novelty has as much claim to be admitted to our lists as *Ephestia ficella*, *Plodia interpunctella*, and many others which could be readily enumerated. It is rather singular that the larva of this species does not appear, like its congeners, to feed on honey, as the name of the genus into which Mr. Stainton has provisionally placed it (*Melissoblaptes* = Stephens' *Melia*) would seem to indicate.

A Table of Local or Scarce British Lepidoptera captured in 1865.

(Arrangement of "Stainton's Manual.")

Species.	Locality.	Captor.	Date.	Reference.	Remarks.
Colias Hyale	Folkestone	J. H. Briggs ...	Sept. ...	E. M. M. ii. 164	Three females.
,, ,, ...	Near Lewes	— Jenner	Aug. (e.) ...	J. H. A. J. in litt.	One example.
,, ,, ...	Dover	H. R. Cox ..	Aug. (e.) ...	E. M. M. ii. 117	A male. Seems scarce this year.
Erebia Cassiope	Lake district ...	E. M. Geldart ...	June 22 ...	MS.	Several, but somewhat worn.
Apatura Iris	Northampton ...	E. Horton... ...	July 14 ...	In litt.	One on a dead horse. Many seen.
Vanessa Antiopa	Near Tenterden ...	R. Mitford ...	Sept. 7 ...	E. M. M. ii. 132	Seen flying over a hop garden.
,, ,, ...	Ilfracombe	Mrs. F. Smith ...	Oct. ...	E. M. M. ii. 161	A specimen seen at ivy bloom.
Argynnis Lathonia	Folkestone	J. H. Briggs ...	Sept. 18 ...	E. M. M. ii. 164	A female secured. Another seen.
,, ,, ...	Braintree	B. Holland ...	Sept. 21 ...	Entom. 311. ...	In a garden.
,, ,, ...	Near Dover	J. D. Richardson	Sept. 16 ...	E. M. M. ii. 132	A female which laid three eggs.
,, ,, ...	Near Colchester ...	... ...	Sept. (e.) ...	Ent. Soc. Oct. ...	Mentioned by Dr. Wallace.
,, ,, ...	Norfolk	... ...	Sept. ...	Sci. Goss. for Oct.	Recorded by Mr. Glasspole.
,, ,, ...	Norfolk	J. Perry	Oct. 2 ...	Entom. 324 ...	Recorded by Mr. Gunn.
Nemeobius Lucina	Plashet Wood ...	J. H. A. Jenner ...	June (b.) ...	In litt.	
Melitæa Cinxia	Folkestone	J. H. Briggs ...	Sept. ...	E. M. M. ii. 164	West Cliff.
,, Athalia	Abbott's Wood ...	J. H. A. Jenner ...	June ...	In litt.	Common.
Thecla betulæ	Loughton	S. A. Davis ...	May ...	In litt.	Larvæ on blackthorn.
,, ,, ...	Loughton	W. Cole	May ...	In litt.	Ditto.
,, W.-album	Powick	G. J. Hearder ...	June 22 ...	In litt.	At grass flowers. New locality
Lycæna Arion	Near Plymouth ...	G. C. Bignell ...	June 17 ...	Entom. 295 ...	In wasted condition.
,, Artaxerxes... ...	Hartlepool	J. E. Robson ...	July ...	In litt.	Scarcer than usual.
Procris globulariæ	Near Lewes	J. H. A. Jenner ...	June (m.) ...	In litt.	Common.
,, ,, ...	Near Lewes	G. H. Verrall ...	June ...	In litt.	Also *Geryon & Statices* all within eight miles.
Acherontia Atropos	Everywhere	Everybody... ...	Sept. & Oct.	Innumerable ...	Abundant this year.
Sphinx convolvuli	Near Lewes	G. H. Verrall ...	Aug. 1864 ...	In litt.	Not rare.

Sphinx convolvuli	Ramsgate	E. Curzon	Sept. 6 ...	Entom. 325 ...	One at rest on a post.
Deilephila galii	Folkestone	E. Meek	June 13 ...	MS.	Bred from larva. See E. M. M.
,, livornica ...	Biggleswade ...	... ...	Sept. 10 ...	J. W. W. in Zool. 9824	Over geranium.
,, ,, ...	Yorkshire	S. Gibson	Sept. 27 ...	Nat. 182 ...	Bred from larva found on Galium.
,, ,, ...	Grisbro'	"A Servant" ...	Oct. (b.) ...	J. Birks in litt.	Found in a house.
Chœrocampa Celerio ...	Exeter	J. Rowdon ...	Oct. 19 ...	E. M. M. ii. 161	At rest on a window-sill.
,, ,, ...	Hendon	H. Druce	Sept. 26 ...	E. M. M. ii. 161	Hovering over a bed of petunias.
,, ,, ...	Suffolk	... ...	Autumn ...	E. M. M. ii. 161	Recorded by Rev. E. N. Bloomfield.
,, ,, ...	Newmarket	F. Postans ...	Oct. ...	E. M. M. ii. 162	In a grocer's shop.
,, ,, ...	Waltham Abbey ...	C. Pryor	Oct. (e.) ...	Nat. 209 ...	From the "Waltham and Cheshunt Telegraph."
,, ,, ...	Huddersfield ...	G. T. Porritt ...	July (e.) ...	Entom. 288 ...	Flew into a cottage at Isle of Anglesea, N. Wales.
,, ,, ...	Hartlepool	"A Boy"	Oct. 26 ...	J. E Robson, in litt.	One specimen.
,, ,, ...	Brighton	J. N. Winter ...	Sept. 8 ...	E. M. M. & Entom.	Flew to light at 2 a.m.
,, ,, ...	Southsea	Mrs. Collins ...	Sept. 27 ...	E. M. M. ii. 232	In a bed-room.
,, ,, ...	Near Brough ...	R. C. Kingston ...	Sept. 20 ...	E. M. M ii. 133	Hovering over geranium.
,, ,, ...	Epping	H. Doubleday ...	Oct. 7 ...	Entom. 327 ...	A larva found.
,, ,, ...	Newmarket	F. Postans ...	Oct. ...	E. M. M. ii. ...	Four larvæ found.
Macroglossa bombyliformis	Penllergare	J. T. D. Llewelyn	May (e.) ...	E. M. M. ii. 138	Abundant.
,, fuciformis ...	Loughton	W. Cole	May 23 ...	In litt.	
Sesia chrysidiformis ...	Folkestone	H. Nicholls ..	June 6 ...	E. M. M. ii. 44 ..	One specimen.
,, ichneumoniformis ...	Folkestone	E. Meek	...	MS.	Hovering over grass.
,, ,, ..	Folkestone	H. G. Knaggs ...	July (e.) ...	H. G. K. ...	Amongst yarrow. Four.
,, philanthiformis ...	Isle of Man	... ...	...	J. B. H. MS. ...	Two specimens.
,, spheciformis	Near Brighton ...	... ...	June (e.) ...	E. M. M. ii. ...	In the imago state.
Cossus ligniperda	Kentish Town ...	H. Vaughan ...	July ...	In litt.	At rest on willows.
Dicranura furcula	Hartlepool	J. E. Robson ...	...	In litt.	A larva.
Stauropus fagi	Black Park	E. Meek	...	MS.	A full-fed larva from oak.
Notodonta dromedarius ...	Near Canterbury ...	H. Vaughan ...	Sept. ...	In litt.	Larvæ on alder.
,, bicolora	N. Staffordsh. ...	J. Chappell ...	...	E. M. M. ii. 47...	Six specimens.

Local or Scarce British Lepidoptera captured in 1865—*continued.*

Species.	Locality.	Captor.	Date.	Reference.	Remarks.
Notodonta chaonia	N. Staffordsh. ...	J. Chappell ...	...	E. M. M. ii. 47 ..	At Burnt Wood.
,, carmelita ..	W. Wickham ...	W. Cole	April 26 ...	E. M. M. ii. 16 ..	A pair off Archbishop's fence.
Clostera curtula	Saffron Walden ...	W. R. Jeffrey ...	...	In litt.	Bred.
,, ,, ...	Near Canterbury ...	H. Vaughan ...	Sept. ..	In litt.	Larvæ on willow.
,, reclusa	Near Canterbury ...	H. Vaughan ...	Sept. ...	In litt.	Larvæ on poplar.
,, ,, ...	W. Wickham ...	W. Cole	June 17 ...	In litt.	Larvæ on sallow.
Demas coryli	Near Canterbury ...	H. Vaughan ...	Sept. ...	In litt.	Larvæ on birch.
Orgyia gonostigma	Tooting	W. Rogers ...	Sept. 12 ...	In litt.	Ova found on sallow.
,, ,, ...	Isle of Wight ...	J. Pristo	Aug. 15 ...	In litt.	Bred from the egg.
Lithosia aureola	Lewes	— Jenner	June ...	J. H. A. J. in litt.	A specimen in Mr. J.'s garden.
,, stramineola ...	Box Hill	W. Rogers ...	Sept. 11 ...	In litt.	Beaten from yew.
,, caniola	Howth	E. Birchall ...	June 15 ...	Entom. 255 ...	Larvæ common on lotus.
Nudaria senex	Deal	H. J. Harding ...	Sept. (e.) ...	Entom. 193 ...	Flying upon flags at dusk.
Spilosoma papyratia ...	Hackney	W. Cole	July ...	In litt.	In the larval state.
,, ,, ...	Tottenham	S. A. Davis ...	July ...	In litt.	Larvæ on burdock.
Trichiura cratægi	Loughton	W. Cole	May (e.) ...	In litt.	Larvæ.
Drepana hamula	W. Wickham ...	W. Cole	May 6 ...	In litt.	By beating.
Limacodes testudo	W. Wickham ...	W. Cole	June 10 ...	In litt.	Jarred out of oaks.
,, asellus	Loughton	E. Meek	...	MS.	A male, beaten out of beech.
Cymatophora duplaris ...	Near Lewes	G. H. Verrall ...	July (b.) ...	In litt.	Not uncommon.
,, ocularis ...	B. St. Edmunds ...	E. Skepper ...	Autumn ...	In litt.	A few by pupa digging.
,, ridens ...	Powick	G. J. Hearden ...	April 17 ...	In litt.	At light.
,, ,, ...	Isle of Wight ...	J. Pristo	April 18 ...	In litt.	A fine specimen on an oak.
Bryophila glandifera ...	Woodchester ...	B. P. Mackey ...	...	E. M. M. ii. 69 .	New locality.
,, ,, ...	Lewes	G. H. Verrall ...	July, Aug....	In litt.	
,, ,, ...	Lewes	J. H. A. Jenner ...	June ...	In litt.	In a garden.
Acronycta leporina	B. St. Edmunds ...	E. Skepper ...	...	MS.	In larval state.
,, ,, ...	Staffordshire	J. Chappell ...	...	E. M. M. ii. 47 .	At Burnt Wood.
,, strigosa	Wicken Fen ...	C. Grinstead ...	June 1 ...	E. M. M. ii. 93 .	Three specimens.
,, alni	Near Worcester ...	G. J. Hearder ...	Autumn ...	E M. M. ii. 44 .	At sugar.
,, ,, ...	Near Selby	E. Firby	July 27 ..	Entom. 287 ..	A larva feeding on alder.
,, myricæ	Killarney?	W. G. Battersby ...	...	Entom. 251 ...	One specimen.

Leucania turca	Near Lewes	G. H. Verrall ...	July	In litt.	Common.
Nonagria despecta	Tuddenham	E. Skepper ...	July 21 ...	MS.	In plenty.
,, Helmanni ...	Near Northampton...	Miss Scriven ...	...	E. Horton, in litt.	A new locality?
Xylophasia scolopacina ...	Suffolk	E. N. Bloomfield ..	July ...	E. M. M. ii. 164	At Great Glenham.
,, ,, ...	Chertsey	A. H. Clarke ...	July 18 ...	In litt.	At sugar.
Dipterygia pinastri	Hampstead	H. Vaughan ...	June ...	In litt.	Abundant at sugar.
,, ,, ...	Chertsey	A. H. Clarke ...	June 21 ...	In litt.	At sugar.
Xylomyges conspicillaris ...	Near Worcester ...	E. Horton	May 7 ...	E. M. M. ii. 15 .	At rest on a small oak.
,, ,, ...	Near Worcester ...	G. J. Hearder ...	Autumn ...	E. M. M. ii. 44 .	At sugar.
Aporophyla australis ...	Near Lewes	J. H. A. Jenner ...	Sept. ...	In litt.	
,, ,, ...	Lewes...	C. H. Verrall ...	Sept. ...	In litt.	Common.
Neuria saponariæ	Powick	G. J. Hearder ...	May 25—31 .	In litt.	At light and sugar. New locality.
,, ,, ...	Hampstead	H. Vaughan ...	June ...	In litt.	New locality. Bishop's Wood.
Heliophobus hispida ...	Gosport	— Woodman ...	Sept. ...	E. M. M. ii. 164	At light.
Luperina Cæspitis	Deal	H. J. Harding ...	...	Entom. 194	
,, ,, ...	Near Lewes	G. H. Verrall ...	Sept. ...	In litt.	Fourteen or fifteen specimens.
,, ,, ...	Near Lewes	J. H. A. Jenner ...	Sept. ...	In litt.	
Mamestra abjecta	Suffolk	E. N. Bloomfield...	July... ...	E. M. M. ii. 164	At Great Glenham.
,, albicolon... ...	Hartlepool	J. E. Robson ...	...	In litt.	Several at Campion flowers.
,, furva	Lake district... ...	T. Blackburn ...	June (e.) ...	E. M. Geldart, in MS.	
Miana expolita	Hartlepool	J. E. Robson ...	...	In litt.	Scarce this season.
Agrotis saucia	Lewes	G. H. Verrall ...	Oct. ...	In litt.	Uncommon.
,, ,, ...	Isle of Wight ...	J. Pristo	Au. 26-Oc. 12	In litt.	Three at sugar. One bred.
,, cinerea	Lewes...	J. H. A. Jenner ...	June ...	In litt.	
,, ,, ...	Lewes...	G. H. Verrall ...	June ...	In litt.	One specimen.
,, præcox	Yarmouth	T. G. Hinnell ...	...	E. Skepper, MS.	Six examples.
,, ravida	Near Northampton...	E. Horton	July 8 ...	In litt.	At light.
,, ,, ...	Powick	G. J. Hearder ...	June 14 ...	In litt.	At light.
Triphæna subsequa ...	Yarmouth	T. G. Hinnell ...	July (e.) ...	E. Skepper, MS.	Flew to light.
Noctua glareosa	Canterbury	H. Vaughan ...	Sept. ...	In litt.	At sugar. Scarce.
,, ...	Isle of Wight ...	J. Pristo	Sept. 22 ...	In litt.	At blackerries.
,, conflua	N. Perthshire ...	C. Turner	July... ...	P. H. Harper, in litt.	
,, Dahlii	Lewes	G. H. Verrall ...	July—Sept. .	In litt.	Also at Plashet, by Mr. Jenner.
,, ,, ...	Canterbury	H. Vaughan ...	Sept. ...	In litt.	Scarce. At sugar.

Local or Scarce British Lepidoptera captured in 1865—*continued.*

Species.	Locality.	Captor.	Date.	Reference.	Remarks.
Noctua neglecta	Isle of Wight ...	J. Pristo	Aug. 29 ...	In litt.	At sugar.
,, ,, ...	Chertsey	A. H. Clarke ...	Sept 4 ...	In litt.	At sugar.
Tæniocampa leucographa ...	Sanderstead	F. L. Keays ...	April ...	In litt.	Off a sallow bush.
,, miniosa ...	Isle of Wight ...	J. Pristo	April 8—12	In litt.	Several at sallow bloom.
Orthosia suspecta	N. Perthshire ...	P. H. Harper ...	August ...	In litt.	
Glæa erythrocephala ...	Wingham, Kent ...	W. O. Hammond	Oct. 17 ...	In litt.	At sugar. The second in this locality.
Dasycampa rubiginea ...	Near Surbiton ...	P. H. Harper ...	Oct. ...	In litt.	
,, ,, ...	Isle of Wight ...	J. Pristo	April 3 ...	In litt.	A specimen at sallow.
Hoporina croceago	Isle of Wight ..	J. Pristo	Ap. 8—Oct. 6	In litt.	At blackberries, sallow, arbutus.
,, ,, ...	Near Hastings ...	E. N. Bloomfield	Apr.—Sept.	E. M. M. ii. 163	At sallow and sugar.
Xanthia aurago	Near Powick ...	E. Horton ...	Sept. 12 ...	In litt.	At sugar. Rather common.
,, ,, ...	Berkshire	F. L. Keays ...	Sept. ...	In litt.	Flying over bramble.
,, ,, ...	Near Lewes	J. H. A. Jenner ...	Sept. ...	In litt.	At ivy. Also by Mr. Verrall.
,, citrago	Saffron Walden ...	W. R. Jeffrey ...	Oct. ...	MS.	At ivy bloom.
Cirrhædia xerampelina ...	Charlton	A. H. Jones ...	Sept. 11—17	E. M. M. ii. 139	At a gas lamp.
,, ,, ...	Lewes	G. H. Verrall ...	Oct. ...	In litt.	At light. Also by Mr. Jenner.
Tethea retusa	Near Powick ...	E. Horton... ...	July 29 ...	In litt.	One at sugar.
Cosmia pyralina	Chertsey	A. H. Clarke ...	July 15 ...	In litt.	Several specimens.
Dianthæcia capsophila ...	Howth	E. Birchall ...	June 6 ...	Entom. 255 ..	Larvæ, pupæ and imagos.
,, Barrettii ...	Howth	E. Birchall ...	June 10 ...	Entom. 255 ...	A male and a female.
,, albimacula ...	Near Gosport ...	G. H. Lacy ...	June, 1864...	E. M. M. i. 237	? Larvæ taken this season.
,, conspersa ...	Lewes	J. H. A. Jenner ...	June ...	In litt.	Over Silene inflata.
Dasypolia templi	Exeter	J. Hellins	Nov. 16, 1864	E. M. M. i. 187	Probably came to light.
,, ,, ...	Scarborough ...	W. R. Jeffrey ...	July ...	MS.	Larvæ in roots of cow-parsnip.
,, ,, ...	Near Wakefield ...	B. Gibson	Nov. (m.)'64	Entom. 145 ...	Among heaps of stones.
Epunda lutulenta	Near Lewes	G. H. Verrall ...	Sept. 13 ...	In litt.	One specimen.
Phlogophora empyrea ...	Near Lewes	J H. A. Jenner ...	Oct. ...	In litt.	Later, and much scarcer than usual.
,, ,, ...	Near Lewes	G. H. Verrall ...	Oct. ...	In litt.	Ditto.
Hadena atriplicis	Hampstead	H. Vaughan ...	June ...	In litt.	A singular locality.

Hadena glauca	Near Worcester ..	E. Horton	May 24 ...	In litt.	At rest on fir trunk.
,, suasa	Near Worcester ...	E. Horton	Aug. 9 ...	In litt.	At sugar.
,, genistæ	Isle of Wight ...	J. Pristo	May 22 ...	In litt.	At sugar.
,, ,, ...	Near Worcester ...	G. J. Hearder ...	...	E. M. M. ii. 44...	Abundant at sugar.
Xylina semibrunnea ...	Near Powick ...	E. Horton	Sept. 19 ...	In litt.	One at sugar; one on a wall.
,, petrificata	Near Powick ...	E. Horton	Sept. 19 ...	In litt.	At sugar.
Cucullia asteris	Folkestone	H. G. Knaggs ...	July (m.) ...	H. G. K. ...	Flying by day.
,, gnaphalii	Near Brighton ...	... ...	July ...	P. H. Harper, in litt.	In the larva state.
Heliothis marginata ...	Herne Bay	H. Vaughan ...	Aug. 1 ...	In litt.	Larvæ on Ononis spinosa.
,, ,, ...	Hartlepool	J. E. Robson ...	...	In litt.	Commoner than usual.
,, armigera	Exeter	J. Hellins	Aug. 12 ...	In litt.	In a garden.
,, ,, ...	Lewes	G. H. Verrall ...	Sept. 25 ...	In litt.	One specimen.
,, ,, ...	Folkestone	J. H. Briggs ...	Sept. ...	E. M. M. ii. 164	Two specimens.
,, ,, ...	Folkestone	H. G. Knaggs ...	July (m.) ...	H. G. K. ...	Hovering over Echium.
Anarta melanopa	N. Perthshire ...	C. Turner ...	Aug. ...	P. H. Harper, in litt.	
Acontia luctuosa	Isle of Wight ...	J. Pristo... ...	May 13 ...	In. litt.	Several in a clover field.
Erastria venustula	Loughton	S. A. Davis ...	June 5 ...	E. M. M. ii. 68...	Several specimens.
,, fuscula	Loughton	S. A. Davis ...	...	In litt.	At sugar.
Hydrelia uncana	Tuddenham	E. Skipper ...	June 19 ...	MS.	About a score.
,, ,, ...	Near Swansea ...	J. T. D. Llewelyn	May (e.) ...	E. M. M. ii. 138	Abundantly.
Brephos notha	Suffolk	E. Skepper ...	April 17 ...	MS.	A good many taken.
Plusia pulchrina	Hartlepool	J. E. Robson ...	...	In litt.	Rarer than usual.
,, interrogationis ...	Lake district ...	T. Blackburn ...	June (e.) ...	E. M. Geldart, MS.	Flying over short heather.
Toxocampa craccæ	From N. Devon ...	H. G. Knaggs ...	June (m.) ...	H. G. K. ...	Ten bred from eggs sent by Rev. E. Horton.
Catocala fraxini	Isle of Wight ...	... ...	Aug. 15 ...	Entom. 305 ...	Recorded by J. Pristo.
,, promissa	Near Lewes	G. H. Verrall ...	July (e.) ...	In litt.	One specimen.
Epione advenaria	Malvern	J. G. Hearder ...	May 22 ...	In litt.	
Eurymene dolabraria ...	Loughton	W. Cole	May (e.) ...	In litt.	In the larva state.
Pericallia syringaria ...	Woodford	W. Cole	June 20 ...	In litt.	
Selenia lunaria	Penllergare	J. T. D. Llewelyn	May (e.) ...	E. M. M. ii. 138	
Ennomos alniaria	Gosport	... ...	Sept. 9 ...	E. M. M. ii. 164	One in a butcher's shop.
,, ,, ...	Gosport	— Lacy	Sept. 10. ...	E. M. M. ii. 164	A specimen taken off a lamp-post.

Local or Scarce British Lepidoptera captured in 1865—*continued.*

Species.	Locality.	Captor.	Date.	Reference.	Remarks.
Ennomos fuscantaria ...	Charlton	A. H. Jones ...	Sept. 11—17	E. M. M. ii. 139	Eleven at light. Eggs obtained.
,, ,, ...	Saffron Walden ...	W. R. Jeffrey	...	MS.	Attracted by light.
Nemoria viridata	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii.	
Hyria auroraria	Tuddenham	E. Skepper ...	May (b.) ...	MS.	A few specimens.
Asthena Blomeraria ...	Wild bottoms ...	J. B. Hodgkinson	June (m.) ...	E. M. M. ii. 160	High up on elm-trunks.
Venusia cambrica	Lake district ..	E. M. Geldart ...	June (e.) ...	MS.	Settled on rock.
Acidalia rubricata	From Brandon ...	Rev. J. Hellins ...	...	In litt.	Bred from eggs sent by Mr. Bond.
,, strigilata	Folkestone	E. Meek	...	MS.	One specimen.
,, ,, ...	Folkestone	R. W. Wright ...	July (m.) ...	H. G. K. ...	Several specimens.
,, ,, ...	Folkestone	H. G. Knaggs ...	July (m.) ...	H. G. K. ...	Beaten from clematis.
,, inornata	Chertsey	A. H. Clarke ...	July 29 ...	In litt.	One specimen.
,, ,, ...	Bexley Heath ...	F. L. Keays ...	July ...	In litt.	
Cabera rotundaria	Uckfield	G. H. Verrall ...	Sept. 12 ...	In litt.	One poor specimen.
Macaria alternata	Dalham	E. Skepper ...	May (b.) ...	MS.	Out of a fir-tree.
,, ,, ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii. 159	Eggs obtained.
Fidonia conspicuata ...	Creeting Hills ...	E. Skepper ...	May (b.) ...	MS.	Among broom.
Aspilates citraria	Herne Bay	H. Vaughan ...	Aug., Sept.	In litt.	Scarcer than last year.
,, gilvaria	Folkestone	H. G. Knaggs ...	July (e.) ...	H. G. K. ...	Males common — females scarce.
Scoria dealbata	Near Hailsham ...	G. H. Verrall ...	July (b.) ...	In litt.	
Sterrha sacraria	Near Folkestone ...	J. H. Briggs ...	Sept. 12 ...	E. M. M. ii. 164	Among rough grass and clover.
,, ,, ...	Isle of Wight ...	C. T. Cruttwell ...	Aug. ...	H. Vaughan, in litt.	A specimen at Niton.
,, ,, ...	Near Brighton ...	A. Kirby	July 18 ...	E. M. M. ii. 92	In the salt-marsh at Hove.
,, ,, ...	Near Exeter	H. D'Orville ...	Sept. 5 ...	E. M. M. ii. 115	At sugar.
,, ,, ...	Isle of Wight ...	J. C. Dale	Sept. (?) ...	E. M. M. ii. 133	Out of furze near Hurst Castle.
,, ,, ...	Isle of Wight ...	J. Ingram ...	Sept. 9 ...	E. M. M. ii. 134	Near Ryde. Second specimen seen.
,, ,, ...	Plymouth	G. C. Bignell ...	Sept. 6 ...	Entom. 316 ...	In a waste place.
,, ,, ...	Worthing	W. J. Wilson ...	Aug. 19 ...	E. M. M. ii. 92 ..	Eggs obtained.
,, ,, ...	From Worthing ...	J. Hellins	Oct. 15 ...	E. M. M. ii. 135	Bred from eggs above mentioned.

Larentia salicaria	Near Swansea ...	J. T. D. Llewelyn ...	...	E. M. M. ii. 45...	On mountain land.
,, ,, ...	Lake district ...	E. M. Geldart ...	June 21 ...	MS.	
,, ,, ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii.	
Eupithecia venosata ...	Saffron Walden ...	W. R. Jeffrey ...	...	MS.	Bred from Silene inflata.
,, ,, ...	Near Lewes	J. H. A. Jenner ...	June (e.) ...	In litt.	Also by Mr. Verrall.
,, pulchellata ...	Derby	G. Baker	May 10 ...	E. M. M. ii. 23 ..	Bred from larvæ off foxglove.
,, ,, ...	Penllergare	J. T. D. Llewelyn	May (e.) ...	E. M. M. ii. 138	A couple of specimens.
,, ,, ...	Near Hastings ...	E. N. Bloomfield	...	E. M. M. ii. ...	Larvæ common.
,, ,, ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii.	
,, pygmæata ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii.	
,, fraxinata ...	Derby	G. Baker	May 6 ...	E. M. M. ii. 23...	Bred from pupæ under ash bark.
,, indigata	Finchley	H. Vaughan ...	June ...	In litt.	Two on palings under firs.
,, lariciata	Near Worcester ...	E. Horton	May 24 ...	In litt.	Among larches. A new locality.
,, valerianata ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii. ...	Flying in the sunshine.
,, campanulata ...	Tring	H. H. Crewe ...	Aug. 3 ...	E. M. M. ii. 93...	Bred somewhat freely.
,, ,, ...	Worcester	E. Horton ...	Aug. 3 ...	E. M. M. ii. 93 ...	A new locality.
,, subciliata ...	Near Hythe	R. Mc L. and H. G. K.	July 27 ...	E. M. M. ii. 93...	Among maple. Eggs obtained.
Lobophora viretata	Lewes	G. H. Verrall ...	June (e.) ...	In litt.	One specimen.
,, polycommata ...	Near Lewes	J. H. A. Jenner ...	April ...	In litt.	Settled on hedges after dark.
,, ,, ...	Near Lewes	G. H. Verrall ...	April ...	In litt.	Common, but local.
Thera coniferata	Hartlepool	J. E. Robson ...	...	In litt.	Among junipers.
,, ,, ...	N. Perthshire ...	C. Turner	July ...	P. H. Harper in litt.	New locality.
,, ,, ...	Lake district ...	E. M. Geldart ...	June (e.) ...	MS.	
Anticlea berberata	Bury	E. Skepper ...	May & Aug.	MS.	Pretty freely.
,, ,, ...	Saffron Walden ...	W. R. Jeffrey ...	...	MS.	Bred from barberry abundantly.
Coremia munitata	Hartlepool	J. E. Robson ...	July (?) ...	In litt.	Flying at dusk.
,, ,, ...	Lake district ...	E. M. Geldart ...	June (e.) ...	MS.	Pretty common.
Camptogramma fluviata ...	Lewes	J. H. A. Jenner ...	Oct.	In litt.	Three on gas lamps.
,, ,, ...	Near Swansea ...	J. T. D. Llewelyn .	May 24 ...	E. M. M. ii. 45 ...	Probably came to light.
,, ,, ...	Powick	J. G. Hearder ...	Sept. 22 ...	In litt.	At light.
,, ,, ...	Charlton	A. H. Jones ...	Sept. 11—17.	E. M. M. ii. 139 .	One male and two females. Eggs obtained.

Local or Scarce British Lepidoptera captured in 1865—*continued.*

Species.	Locality.	Captor.	Date.	Reference.	Remarks.
Camptogramma fluviata ...	Near Hastings ...	E. N. Bloomfield .	...	E. M. M. ii. 164 .	A specimen at light.
,, ,, ...	Near Lewes	G. H. Verrall ..	Oct. 12 ...	In litt.	Six on lamps, one at sugar.
Scotosia vetulata	Saffron Walden ...	W. R. Jeffrey ...	...	MS.	Bred from buckthorn.
,, rhamnata	Saffron Walden ...	W. R. Jeffrey ...	...	MS.	Ditto.
,, ,, ...	Croydon	H. Vaughan ...	Jnly ...	In litt.	Flying over buckthorn.
,, undulata '... ...	Near Hastings ...	E. N. Bloomfield...	July ...	E. M. M. ii. 164 .	One specimen in a garden.
Cidaria psitticata	Tooting	W. Rogers... ...	Aug. 20 ...	In litt.	Larvæ found on elm.
,, ,, ...	Lewes...	G. H. Verrall ...	Sept. ..	In litt.	Common, at sugar.
Madopa salicalis	Haslemere	C. G. Barrett ...	...	In litt.	Scarce.
Hypenodes albistrigalis ...	Near Lewes	G. H. Verrall ...	July (e.) ...	In litt.	One example.
Herminia derivalis	Near Lewes	G. H. Verrall ...	July... ...	In litt.	Took two and passed over two as common.
Pyralis glaucinalis	Chertsey	A. H. Clarke ...	Aug. 13—19.	In litt.	At sugar.—Common.
Aglossa cuprealis	Tottenham	F. L. Keays ...	...	In litt.	One in a room.—Six on a previous occasion.
Diasemia litteralis	Epsom	W. Rogers ...	Oct. 14 ...	In litt.	Beaten out of a hedge.
Nascia cilialis	Cambridge	G. R. Crotch ...	...	Entom.	
,, ,, ...	Near Cambridge ...	P. H. Harper ...	June ...	E. M. M. ii. 166 .	Taken during rain.
Botys lancealis	Folkestone	R. W. Wright ...	July (m.) ...	H. G. K. ...	A few specimens.
,, asinalis	Near Bristol... ..	A. E. Hudd ...	Sept. 16 ...	E. M. M. ii. 117 .	Second brood.
,, ,, ...	From Bristol	J. Hellins	Aug. 31 ...	E.M. M. ii. 136 .	Eggs sent by Mr. Hudd.
Spilodes sticticalis	Folkestone	E. Meek	July 3 ...	MS.	A fine fresh female.
,, cinctalis	Saffron Walden ...	W. R. Jeffrey ...	...	In litt.	Amongst mugwort!
,, ,, ...	Near Hailsham ...	G. H. Verrall ...	July (b.) ...	In litt.	
Simæthis pariana	Lewes	G. H. Verrall ...	Sept. ...	In litt.	Uncommon.
Achröia grisella	Bury	E. Skepper ...	Oct. ...	E. M. M. ii. 136 .	Swarming in an old hive.
Myelöis cribrum	Near Southend ...	H. Vaughan ...	June ...	In litt.	Bred from pupæ in thistle stems.
Cryptoblabes bistriga ...	Woolpit	H. S. Marriott ...	July (b.) ...	In litt.	
Ephestia ficella	Tooting	W. Rogers... ...	Sept. 3 ...	In litt.	Two years feeding in figs.
Hypochalcia ahenella ...	Lewes...	G. H. Verrall ...	June ...	In litt.	Not uncommon.
Pempelia carnella	Folkestone	H. G. Knaggs ...	July (e.) ..	H. G. K. ...	One specimen.
,, ornatella	Sandgate	H. G. Knaggs ...	July... ...	H. G. K. ...	Not uncommon.

Pempelia ornatella	Folkestone	E. Meek	July... ...	E. M. M. ii.	
Nephopteryx roborella ...	Near Lewes	G. H. Verrall ...	July... ...	In litt.	
Crambus cerussellus ...	Lewes...	G. H. Verrall ...	...	In litt.	
,, falsellus	Lewes...	G. H. Verrall ...	Aug. ...	In litt.	Not uncommon.
,, ,, ...	Suffolk	E. N. Bloomfield .	...	E. M. M. ii. 164 .	
,, ,, ...	Near Lewes	J. H. A. Jenner ...	July ...	In litt.	Flying over thatch.
,, latistrius	Near Canterbury ...	H. Vaughan ...	Sept. ...	In litt.	
,, furcatellus ...	Lake district... ...	E. M. Geldart ...	June (e.) ..	MS.	Not scarce.
Chilo mucronellus	Horning Fen... ...	E. Hopley	...	Verb. com. ...	One specimen.
Chlöephora quercana ...	W. Wickham ...	W. Cole	May 20 ...	In litt.	Larvæ beaten from oak.
,, ,, ...	Shirley	S. A. Davis ...	...	In litt.	Two bred from larvæ off oak.
,, ,, ...	Chertsey	A. H. Clarke ...	July 4 ...	In litt.	At sugar..
Sarrothripa revayana ...	Near Uckfield ...	G. H. Verrall ...	Sept. 6 ...	In litt.	One specimen.
Amphisa Walkerana ...	Withnell Moor ...	J. B. Hodgkinson	March (e.)	E. M. M. ii. 159	Males abundant, females rare.
Brachytænia semifasciana...	Saffron Walden ...	W. R. Jeffrey ...	...	MS.	Bred from sallow.
Antithesia prælongana ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii. 159	
,, marginana ...	Saffron Walden ...	W. R. Jeffrey ...	...	MS.	Bred from teazle.
,, gentianaua ...	Near Southend ...	H. Vaughan ...	July ...	In litt.	Bred from teazle heads.
,, carbonana ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii. 159	
,, ,, ...	Near Worcester ...	E. Horton	July 14 ...	In litt.	Beaten out of fir.
Clepsis rusticana	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii. 159	
Tortrix Dumetana	Near Lewes	G. H. Verrall ...	July (b.) ...	In litt.	Not uncommon but local.
Lozotænia roborana... ...	Near Lewes	G. H. Verrall ...	July (b.) ...	In litt.	Common, but local.
Lithographia cinerana ...	Saffron Walden ...	W. R. Jeffrey ...	...	MS.	Bred from aspen.
Halonota bimaculana ...	Near Lewes	G. H. Verrall ...	Sept. 6 ...	In litt.	Not uncommon.
,, tetragonana ...	Near Worcester ...	E. Horton ...	July 14 ...	In litt.	In mixed underwood.
Dicrorampha alpinana ...	Kentish Town ...	H. Vaughan ...	July ...	In litt.	One in a garden.
,, ,, ...	Devonshire	C. T. Cruttwell ...	Aug. ...	H. Vaughan, in litt.	Common among tansy.
,, simpliciana ..	Folkestone	H. G. Knaggs ...	July (m.) ...	H. G. K. ...	Not scarce among mugwort.
Hedya pauperana	Saffron Walden ...	W. R. Jeffrey .	April (b.) ...	MS.	Two flying in a lane.
Anchylopera uncana ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ..	E. M. M. ii. 159	
,, diminutana ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii. 159	
,, siculana ...	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii. 159	
,, myrtillana ...	Near Worcester ...	E. Horton	May 24 ...	In litt.	Abundant among bilberry ...
Oxygrapha litterana	Tooting	W. Rogers ...	July 10 ...	In litt.	On a fence.

Local or Scarce British Lepidoptera captured in 1865—*continued.*

Species.	Locality.	Captor.	Date.	Reference.	Remarks.
Oxygrapha scabrana ...	Near Worcester ...	E. Horton	Sept. 10 ...	In litt.	Bred rather freely from larvæ on elm.
Peronea lipsiana	Withnell Moor ...	J. B. Hodgkinson	May (m.) ...	E. M. M. ii. 159	
,, umbrana	Near Uckfield ...	G. H. Verrall ...	Oct. 1864 ...	In litt.	One specimen.
Mixodia Ratzburghiana ...	Near Worcester ...	E. Horton	July 14 ...	In litt.	Beaten out of fir. Not scarce.
Roxana arcuana	Hampstead	H. Vaughan ...	June ...	In litt.	Bishop's Wood.
,, ,, ...	Near Lewes	G. H. Verrall ...	July ...	In litt.	Not uncommon.
Phtheochröa rugosana ...	Saffron Walden ...	W. R. Jeffrey ..	...	MS.	
Eupœcilia albicapitana ...	Howth	E. Birchall ...	...	Entom. 256	
,, dubitana	Howth	E. Birchall ...	...	Entom. 256.	

Larvæ discovered and described in 1865.

Species.	Date.	Food.	Where and by whom described.	Remarks.
Leucania putrescens ..	Full fed Oct. 12.	Poa annua.	W. Buckler, E. M. M. vol. ii. p. 94.	Discovered by Mr. Johns of Babbicombe.
Nonagria lutosa ..	Midsummer	Arundo phragmites.	E. Newman, Entom. p. 224.	Previously known, but undescribed.
Luperina cæspitis ..	April hatched, full fed June end.	Aira cæspitosa and other grasses.	Rev. J. Hellins, MS. for E. M. M.	Incorrectly described by Freyer: more like Guenée's Heliophobus popularis.
Phytometra ænea ..	Full fed Sept. 10.	Polygala vulgaris.	Rev. J. Hellins, E. M. M. vol. ii. p. 163.	Spins up in tightly fitting, close-woven, little cocoons of grey silk.
Toxocampa craccæ ..	Full fed June (m.)	Vicia sylvatica, will also eat V. sepium and O. tuberosus.	Rev. E. Horton, Zool. p. 8179, and subsequently W. Buckler, E. M. M. vol. ii. p. 68.	Discovered by the Rev. E. Horton.

Table of Larvæ—*continued.*

Species.	Date.	Food.	Where and by whom described.	Remarks.
Acidalia rubricata ..	Hatched Aug. 6, full fed May (e.)	Will eat Polygonum aviculare, Lotus, Medicago, Trifolium, and Thymus serpyllum.	Rev. J. Hellins, E. M. M. vol. ii. p. 66.	Eggs obtained by Mr. Bond. — Pupa in a slight cocoon under moss.
Acidalia circellata ..	Hatched July (b.), full fed Aug. (e.), or hybernates.	Will eat Polygonum aviculare.	Rev. J. Hellins, in present volume.	Larvæ obtained by Mr. Batty of Sheffield.
Acidalia mancuniata ..	Full fed July 15.	Will eat Polygonum aviculare.	W. Buckler, in present volume; also in E. M. M. vol. ii. p. 189.	Larvæ obtained by Mr. Batty of Sheffield.
Fidonia carbonaria ..	Full fed July 12.	Betula alba, Salix cinerea, &c.	E. Newman, Entom. p. 314.	Eggs obtained by Mr. J. Hardy of Hulme.
Scoria dealbata ..	Full fed May 20.	Coarse grass, will eat also dock and knot-grass.	Rev. J. Hellins, E. M. M. vol. ii. p. 190.	Spins beautiful spindle-shaped cocoons. Discovered by Mr. Wilks (late of Ashford).

Sterrha sacraria ..	Hatched Aug. 29, full fed from Sept. 20—30.	Will eat Polygonum aviculare.	Rev. J. Hellins, E. M. M. vol. ii. p. 134.	Eggs laid by ♀ captured by Master Wilson at Worthing. Figured by Herr Carl Plotz on Chamomile.
Eupithecia plumbeolata	Hatched June, full fed July (m.) to Aug. (m.)	Melampyrum pratense.	Rev. H. Harpur Crewe, E. M. M. vol. ii. p. 90, Zool. 9738.	The clue to the food was furnished to Mr. Crewe by Herr Carl Plotz' beautiful drawings. Eggs obtained apparently simultaneously by Messrs. Baker, Barrett and Hodgkinson.
Botys asinalis.. ..	Hatched July 6, full fed Aug. 8.	Rubia peregrina.	Rev. J. Hellins, E. M. M. vol. ii. p. 135.	Discovered by Mr. A. E. Hudd of Clifton, near Bristol.

The following description, which has not been hitherto published, is from the pen of the Rev. John Hellins:—

Description of the Larva of Acidalia circellata.

On the 6th August, Mr. Batty of Sheffield sent me some larvæ of this species which had been hatched early in July. Two of them were nearly full grown, but the rest more than half grown; the former spun up during the last week in August, and the moths appeared about the middle of September, whilst the latter have remained nearly stationary, scarcely eating anything since I received them. I am thus able to describe the larva at two stages of its growth.

The smaller ones are of a dark brown all over except the back of segments five to nine, which is occupied by a pale buff space; down the middle of this space are four little dark insulated X's, dividing it into five long diamonds, with a stripe of the pale colour on either side.

When full fed, the larva is about $\frac{3}{4}$-inch long, slender, tapering towards the head, and rather flattened; the head small and notched; the skin very rugose; in attitude it is stiff, not curling-in much when disturbed. The colour is pale grey, or yellowish-grey above, darker grey below; the subdorsal line dark blackish-grey; dorsal and spiracular lines very fine and whitish in colour; on the anterior segments up to five the dorsal line is edged with fine blackish lines, but on segments six to nine the X's of the younger stage re-appear as pairs of blackish curved dashes, darkest just at the segmental folds, and lighter on the following segment; and on the same segments these marks are followed by a pair of blackish dots and fainter dashes; the ninth segment is the palest, and the hinder ones are much darker, all the lines being there strongly marked.

The pupa is inclosed in a loose cocoon, formed by drawing

together either earth or leaves with a few threads, and is slender in form, the tip of the tail ending very bluntly with three little horny warts; the colour reddish-brown, the edges of the wing-cases brighter.

The food supplied was *Polygonum aviculare*, and seemed to suit very well.

It appears that the larvæ of *Acidaliæ*, if they can meet with sufficient heat, and a supply of fresh tender food at the same time, will feed up so rapidly as to produce a second brood of moths in August or September; thus, this season I know *A. ornata*, *mancuniata*, and the species I have just described, have been partially double-brooded; but I am inclined to think that with most of the species the greater number of the larvæ hybernate.

Since the foregoing pages were written we have thought it desirable to add the following brief notes on

TWO NEW BRITISH TORTRICES:—

SERICORIS RUPESTRANA, Duponchel.

This species, which is, I am informed, common on the moors in the north of England, has hitherto been considered in this country as a variety of *Sericoris lacunana*. It is, however, considerably smaller than that species, and may be distinguished from it by the absence of metallic dots on the anterior wings, and also by the central fascia being paler. The head and palpi as well as the thorax and abdomen are blackish. When seen in series, it has an appearance very distinct from that of *S. lacunana*, though an odd specimen might easily pass for a small variety of it.

The insect has recently been added to our lists in the supplement to Mr. Doubleday's Catalogue, and will henceforth occupy a separate space in our cabinets.

Spilonota lariciana, Zeller.

This insect, which occurs among larches (*Larix europæa*) has been taken by Mr. H. J. Harding, but was long since suspected of being a new species by my friend Mr. M'Lachlan, who years ago, I remember, exhibited some examples at the Entomological Society of London, and suggested at the time that they were probably Zeller's *lariciana*.

The perfect insect bears a great resemblance to some of the varieties of *Spilonota ocellana*, but the general tint is more leaden-coloured. When this genus is carefully worked out, we shall doubtless find other species to inhabit this country; one form, feeding on that local coast plant the *Hippophäe rhamnoides*, I consider especially likely to be proved at some future time as distinct from its closely allied congener *S. ocellana*.

NEW BRITISH TINEINA.

By H. T. Stainton, F.L.S.

Our present list of novelties is not a long one; it includes, however, two species new to science, and the other novelty is an insect which we have long had in our collections mixed with *Gelechia Affinis*.

Our three species are—

Gelechia Knaggsiella, n. sp.,
Gelechia Umbrosella, Zeller, and
Cemiostoma Lathyrifoliella, n. sp.

Gelechia Knaggsiella, n. sp.

Alis anticis *albis*, griseo-suffusis, maculis punctisque nigris, plaga brunnescente ante fasciam posticam *albam*, obtuse angulatam.

Exp. al. $4\frac{1}{2}$—$5\frac{1}{2}$ lin.

Head grey, face white. Palpi with the second joint externally blackish, internally whitish, greyer towards the tip, the extreme tips entirely white; terminal joint altogether black except the extreme tip, which is white. Antennæ whitish, annulated with dark fuscous. Anterior wings white, much suffused with grey and with numerous black markings, and a tawny patch before the subapical fascia, which is conspicuously white. Near the base are two or three small

black spots, then follows a larger black spot on the costa, and obliquely below it a rather elongate black spot on the fold, above the hinder end of which is a minute black dot on the disk. Beyond the costal spot the costa is much clouded with dark grey, without forming a definite spot—beyond the middle is a black spot on the disk, which communicates with a blackish blotch on the fold a little beyond it—beyond this is the tawny blotch which occupies the whole space to the angulated fascia; this is conspicuously white, forming an angle of about 105° (in *Hübneri* the angle is much more acute, about 75°)—beyond the fascia the apical portion of the wing is almost entirely dark grey, with a few blacker spots, interspersed with small whitish blotches along the costa; cilia grey, with the tips whitish, more conspicuously so than in *Gelechia Hübneri*.

Posterior wings rather dark grey, with the cilia of the same colour (they are both darker and narrower than those of *Hübneri*).

Taken by Mr. Barrett, at Haslemere, on the trunks of oaks and other trees, from the middle of July to the end of August, and noticed by him (Entomologist's Monthly Magazine, vol. 2, p. 43) as *Gelechia*, n. sp.

This species is *very* closely allied to *Hübneri*, but is smaller, darker, with more markings, and the fascia is whiter and less angulated. Whilst in Germany this autumn, I found the insect in several collections, under the name of *Junctella*; the German Entomologists having reputed it to be the *Junctella* of Douglas. I also learnt that it had been bred from larvæ feeding on *Stellaria holostea*, along with the larvæ of *Hübneri*.

At the request of the captor, I have named this insect after my friend Dr. Knaggs, who, some years ago, enriched all our collections with *Clostera anachoreta*, and has since done

much other good service to the cause of Entomology. His "Hints on Collecting," published in the Entomologist's Monthly Magazine, being the most complete and detailed hints yet issued.

Gelechia Knaggsiella is so extremely close to *Gelechia Hübneri*, and coming as it does in a group already gorged, as I may say, with species *all of which feed on the Caryophyllaceæ*, it must force us to turn our attention more and more to the question,—*the* question I may call it,—

What is a species?

Had *Knaggsiella* fed on some other plant, how easy would it have been for the inexperienced to say, *that* is the reason why it differs from *Hübneri;* but inexperience and experience are alike at a loss to explain this mystery, unless some one could be found bold enough to suggest that its ancestors generations ago, in default of *Stellaria Holostea*, ate something else, and their posterity had been dwarfed ever since—those descended from the specimens which remained constant to *Stellaria Holostea* always continuing *Hübneri*. The *Pomifoliella* group of *Lithocolletis* has long seemed an unintelligible labyrinth, and since the occurrence of such species as *Cydoniella*, *Cerasicolella*, *Mahalebella*, and *Padi*, we have half shrunk from grappling with them.

GELECHIA UMBROSELLA, Zeller, Isis, 1839.

Gelechia affinis, Stainton, Ins. Brit. Lep. Tin. p. 115 (excluding habit of larva).

(Non Douglas, Trans. Ent. Soc. Lond. vol. i. n. s. p. 17).

This has hitherto been mixed in most of our collections with another species, under the name of *Affinis*. The true *Affinis*, the insect described by Douglas (for it is impossible

now to identify the descriptions of Haworth or Stephens with either species), occurs on mossy walls, and often gets into houses, the habit of the larva being precisely similar to that of the larva of *Domestica*. *Umbrosella*, on the other hand, occurs most plentifully on the sand-hills of the coast, though it also occurs inland. My specimens were mostly taken at Dawlish Warren, at the mouth of the Exe, about the middle of May, 1854, but I took one specimen on the heath at Weybridge, July 12th, 1851, (the day the Entomological Society made an excursion to that locality).

Affinis has the anterior wings rather broader, darker and without the glossy appearance we observe in *Umbrosella*. Moreover the pale scales on the surface of the anterior wings of *Umbrosella* are much whiter than those in *Affinis*, which are more yellowish. In *Umbrosella* we see towards the hind margin two *whitish* spots, scarcely showing any tendency to form a fascia, and if one be formed its angulation is extremely slight. In *Affinis* these spots form a distinctly angulated *yellowish* fascia.

Moreover the second joint of the palpi has a decided ochreous tinge in *Umbrosella*, whereas in *Affinis* it is pale grey.

In the ninth volume of the Natural History of the Tineina, I have given the history of *Gelechia Affinis*, and described and figured the larva. The larva of *Gel. Umbrosella* has yet to be discovered.

Cemiostoma Lathyrifoliella, n. s.

In the Ent. Annual for 1862, p. 139, under the heading *Cemiostoma Lotella*, I remarked as follows :—

Dr. Jordan met with a *Cemiostoma* larva early in August, on the leaves of *Lathyrus sylvestris*, at Shaldon, near Teignmouth. These appeared to me referable to *C.*

Lotella, but they may prove distinct. At that time I had not seen the perfect insect, and was judging from the appearance of the mine and the conspicuously shining egg-shell, so similar to the egg-shell of *Cemiostoma Lotella*.

In June last I heard from Mr. T. Wilkinson, that he had received from Dr. Jordan, a fine living specimen of the *Cemiostoma* of the *Lathyrus*, and that the species to which it was most nearly allied was *C. Wailesella*.

When I was at Edgbaston last September, a visit I most thoroughly enjoyed, Dr. Jordan gave me some bred specimens of the insect, and I found, of course, that it is a very distant relation of *C. Lotella*, and far more closely connected with *C. Wailesella*, from which, however, I apprehend it is really distinct. To appreciate, however, the distinctness thoroughly, I believe it will be necessary to breed both the species in considerable numbers.

Lathyrifoliella is the size and colour of *Wailesella*, but the dark spot at the anal angle of the anterior wings is considerably larger, and the two costal spots are closer together, so that the white space between them is manifestly smaller. I apprehend there are several other minute differences which I hope to point out on a future occasion.

A Chapter of OBSERVATIONS ON TINEINA written for this volume is unavoidably excluded from pure want of space.

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Tytthus insignis, *Doug. & Scott.*
Globiceps ater, *Doug. & Scott.*
„ dispar, *Bohem.*
Agalliastes Wilkinsoni, *Doug. & Scott.*
„ albipennis, *Fall.*
Bothynotus Minki, *Fieb.* (Frontispiece, Fig. 3.)

Section OCULATINA.

Salda Morio, *Zett.*
„ Flori, *A. Dohrn.*

Section CORIXINA.

Corixa limitata, *Fieb.*

* We had prepared fully detailed descriptions of all, but the Editor of the "Annual" has excluded them for pure want of space. We shall endeavour, however, to publish the paper elsewhere.

ADDRESSES OF ENTOMOLOGISTS.

A few gentlemen who have moved since our last list was published, or who did not figure in that list, have requested their present addresses to be given as under :—

* Cox, H. Ramsay, West Dulwich, S.
Fryer, Charles, Birkdale Park, Southport.
Kenderdine, F., Morningside, Old Trafford, Manchester.
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Contents of No. 19. Published December 1st, 1865.

An Essay towards a Knowledge of British Homoptera. *Rev. T. A. Marshall, M.A.*

Descriptions of new Genera and Species of Gallerucidæ. *J. S. Baly, F.L.S.*

On some Aberrant Genera of Psocina. *Dr. H. A. Hagen.*

An Entomological Excursion in the Alps. *H. T. Stainton, F.L.S.*

Description of a Species of Bledius new to Science. *E. C. Rye.*

Occurrence of a Bembidium new to Britain (B. quadrisignatum). *Id.*

Note on a Species of Atomaria new to the British lists (A. Barani). *Id.*

Note on a Species of Trachyphlæus new to the British lists (T. aristatus). *Id.*

Note on the Occurrence of a Species of Omalium new to Britain (O. Pineti). *D. Sharp.*

Note on the Occurrence of a Species of Leptura new to Britain (L. rufa). *Id.*

Note on the Capture of an Atomaria new to Britain (A. impressa). *Id.*

Note on Tachyporus ruficollis. *Id.*

Hydroporus quinquelineatus, Zett., taken in Northumberland. *T. J. Bold.*

Occurrence of Limnephilus subcentralis, Hag., a Trichopterous insect new to Britain. *A. E. Eaton.*

Contents of No. 19—*continued.*

On the Use of the Anal Forceps in the Forficulidæ. *A. A. Dunlop.*
Capture of Lepidoptera in the North. *J. B. Hodgkinson.*
Notes on Cynthia Cardui and Vanessa Antiopa. *F. Smith.*
Chærocampa Celerio at Exeter. *Rev. J. Hellins, M.A.*
Chærocampa Celerio near Hendon. *H. Druce.*
Chærocampa Celerio in Suffolk. *Rev. E. N. Bloomfield, M.A.*
Chærocampa Celerio (imago and larvæ) at Newmarket. *F. Postans.*
Description of the Larva of Agrotis nigricans, with notes on its destructive habits. *W. Buckler.*
Description of the Larva of Phytometra ænea. *Rev. J. Hellins, M.A.*
Lepidopterous Captures near Hastings. *Rev. E. N. Bloomfield, M.A.*
Ennomos alniaria at Gosport. *G. H. Lacy.*
Sterrha sacraria near Folkestone. *J. H. Briggs.*
Argynnis Lathonia, Heliothis armigera, &c. near Folkestone. *Id.*
Note on Depressaria olerella. *C. G. Barrett.*
Double-broodedness (?) of Magroglossa stellatarum. *Rev. E. Horton, M.A.*
Second appearance of Phorodesma bajularia. *Rev. J. Hellins, M.A.*
The new British Pterophorus (dichrodactylus). *W. R. Jeffrey.*
Observations on various Pterophori. *Id.*
Nascia cilialis near Cambridge. *P. H. Harper, F.R.C.S.*
Occurrence of Sesia speciformis and Cucullia Gnaphalii. *Id.*
Postscript to Description, &c., of Botys asinalis. *Rev. J. Hellins, M.A.*
Postscript to Note on Sterrha sacraria. *Id.*
Review—"The Record of Zoological Literature, 1864."
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